

DOCUMENT RESUME

ED 125 548

IR 003 632

TITLE Test and Evaluation of Public Service Uses of Cable Television: Reading, Pennsylvania.

INSTITUTION New York Univ., N.Y. Reading Consortium.

SPONS AGENCY National Science Foundation, Washington, D.C. RANN Program.

PUB DATE 76

GRANT NSF-APR-75-14311

NOTE 328p.

EDRS PRICE MF-\$0.83 HC-\$18.07 Plus Postage.

DESCRIPTORS *Cable Television; Community Information Services; Community Services; Cost Effectiveness; Delivery Systems; *Human Services; *Neighborhood Centers; *Older Adults; Outreach Programs; Program Evaluation; *Research Proposals; Senior Citizens; Social Services

IDENTIFIERS Berks TV Cable Company; Interactive Television; Neighborhood Communication Centers; New York University; *Pennsylvania (Reading)

ABSTRACT

The New York University-Reading Consortium proposed to evaluate the use of interactive cable television for the delivery of public services to the the elderly residents of Reading, Pennsylvania. The project represented the collaborative efforts of New York University, the City of reading, the Berks TV Cable Company, the Berks County Senior Citizens Council, and the Reading Housing Authority. The research proposed to identify and measure the costs and social benefits of delivering public services to a selected segment of the elderly population through a system of interconnected Neighborhood Communication Centers (NCCs). The present proposal considered the research that will be conducted in examining the operation and impact of an interconnected system. (HAB)

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TEST AND EVALUATION OF PUBLIC SERVICE USES OF CABLE TELEVISION: READING, PENNSYLVANIA

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- Berks TV Cable Company, Reading, Pennsylvania
- Berks County Senior Citizens Council, Reading, Pennsylvania
- Reading Housing Authority, Reading, Pennsylvania
- New York University
 - Alternate Media Center, School of the Arts
 - Graduate School of Public Administration

Research Proposal Submitted to the National Science Foundation
Program Solicitation, No. 74-8
Research Applied to National Needs (RANN)
Amendment to NSF Grant #APR 75-14311 - 1/1/76-10/31/77

New York University

New York, New York 10012

Test and Evaluation of Public Service Uses
of Cable Television: Reading, Pennsylvania

Amount Requested 848,711 Proposed Duration 22 months Requested Starting Date Jan. 1, 1976

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PREFACE

The New York University-Reading Consortium proposes to evaluate the use of interactive cable television for the delivery of public services to the elderly residents of Reading, Pennsylvania. The project represents the collaborative efforts of New York University, the City of Reading, the Berks TV Cable Co., the Berks County Senior Citizens Council, and the Reading Housing Authority.

The research proposes to identify and measure the costs and social benefits of delivering public services to a selected segment of the elderly population through a system of interconnected Neighborhood Communication Centers (NCCs).

The technical configuration, design and operation of the interactive cable system have been set forth in the earlier proposal: Experiment in Urban Telecommunications: Interactive Neighborhood Communication Centers for the Elderly, Phase II Solicitation 74-8. The present proposal considers the research that will be conducted in examining the operation and impact of an interconnected system.

The research activities will be organized in the following

manner:

- A. The cost-effectiveness of the Neighborhood Communication Center (NCC) system in the delivery of a selected number of public sector services will be evaluated.
- B. The costs of setting up and operating the NCC system and an extrapolation of these costs for an expanded system will be made.
- C. The impact of the entire NCC system on the Reading Community will be assessed.
- D. An analysis of the development and operation of the NCC system will be produced.

1.0 SETTING AND IMPLEMENTATION OF THE PROJECT: A SYNOPSIS*

1.1 BACKGROUND

The NYU Reading-Consortium was formed in January 1974, to plan social and public uses for a two-way cable communications system in Reading, Pennsylvania. By June 1975, a detailed implementation and research design, focusing on the elderly population of Reading had been drawn up as a joint project of the Alternate Media Center at New York University School of the Arts and the Graduate School of Public Administration of New York University. The task was accomplished with the advice and consultation of the Reading members of the consortium: Berks Cable TV Co., the City of Reading, the Reading Housing Authority, and Berks County Senior Citizens Council.

Reading has several assets as a site for this experiment: it has a city-wide cable system on which two-way transactions are being transmitted regularly; N.Y.U.'s Alternate Media Center has been involved in several cooperative ventures with the cable system, municipal government, local colleges, and many Reading citizens and other organizations since 1971.

*For a detailed discussion of the setting and Implementation see Experiments in Urban Telecommunications Phase II solicitation 74-8.

In addition, the city has been responsive to the needs of its senior citizens, providing a high level of public housing for approximately 10% of the elderly in five high-rise apartments and two garden apartment developments. The city has also provided supplementary funds to help build the new Horizon Center for senior citizens; and free public bus transportation for them during non-rush hours. Reading is a city of 88,000, the county seat of Berks County. Traditionally a manufacturing center, its median family income in 1970 was \$8,786.

1.2 THE NEIGHBORHOOD COMMUNICATION CENTER SYSTEM

Implementation plans are based on the establishment of three interconnected Neighborhood Communication Centers (NCCs) to which senior citizens have ready access. One NCC center is in the Horizon Center, a multi-service center serving the entire elderly population of the city. The second is in Kenredy Towers, a high-rise building exclusively for senior citizens. The third is situated in the community room of Hensler Homes, a mixed population garden apartment complex, with about 25% elderly residents.

Fig.1.1. (Map and Chart) shows the location of the NCCs and the socio-economic characteristics of their respective neighborhoods.

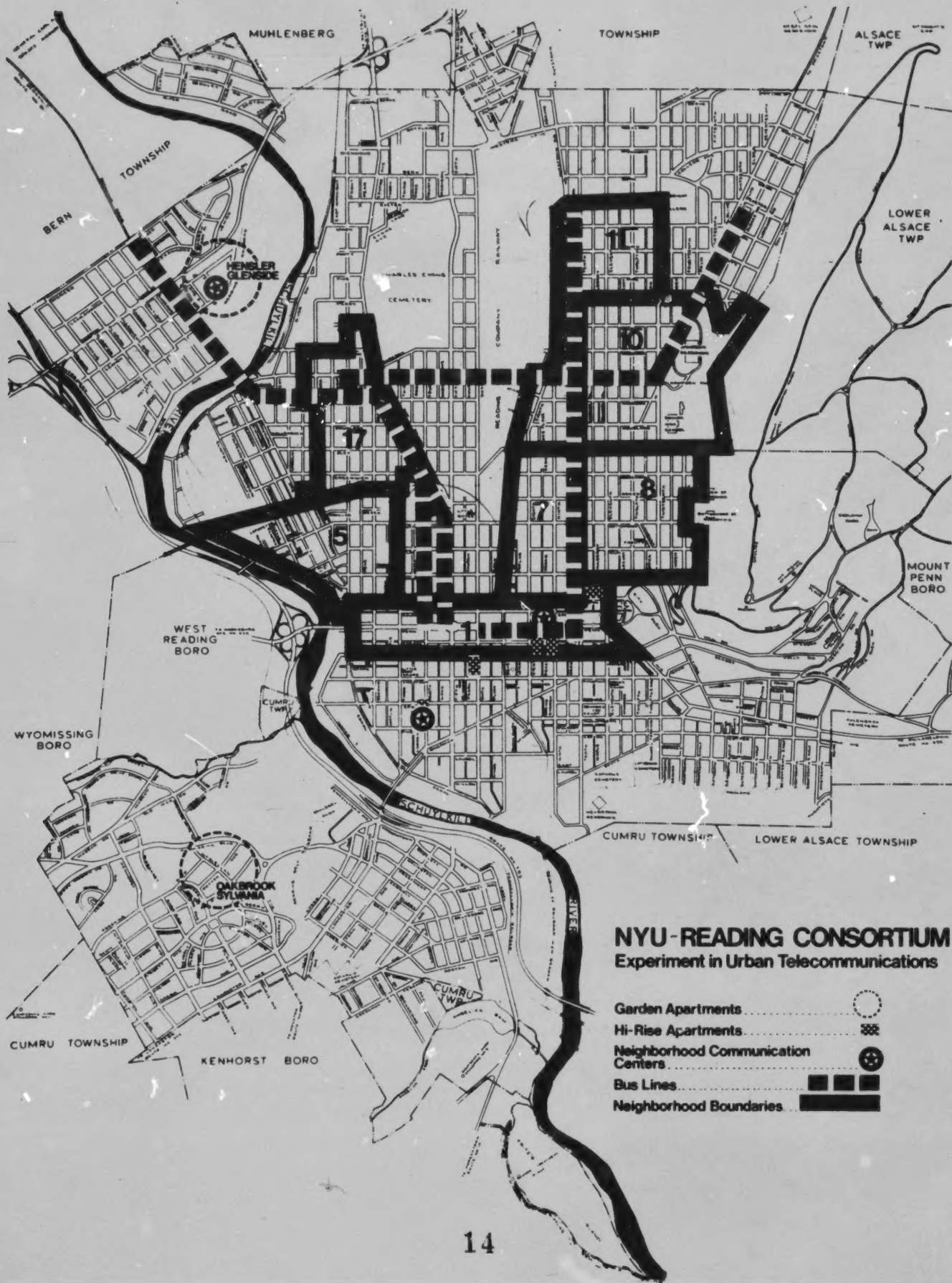


Table I*: Socio-Economic Characteristics of Neighborhood Communication Center Sites.

	Reading, PA (Neighborhood #1 - Neighborhood #7)	New Horizon Center** (Neighborhood #7)	Kennedy Towers (Neighborhood #3)	Hensler Homes (Neighborhood #9)
Total Population	87,643	3181	3598	6800
# over 65	13,866	719	698	1231
% over	15.8%	22.59%	19.41%	18.89%
Average Household Income (\$)	8577	6136	6316	6800
% Families Below Poverty Level	8%	13%	8%	13%
				18%
				7409

Table II*: Housing Characteristics of Neighborhood Communication Center Sites.

Total Housing Units	33,644	1652	1653	2636	1040
Total Occupied Housing Units	32,454	1545	1549	2459	992
Vacancy Rate	4.6%	6.5%	6%	2.6%	2.6%
% Owner-Occupied	58%	34%	46%	40%	65%
% Renter-Occupied	42%	66%	54%	60%	35%
% Requiring Major Repair or Replacement	29%	30-40%	40%+	30-40%	10%+

Fig. 1.1.1

* Source: The Reading Planning Commission has organized 1970 U.S. Census data into a format based on 23 neighborhoods, City of Reading, An Analysis and Projection of 1970 Housing Census Data, 1973.

** The New Horizon Center is located on the border of two neighborhoods, #1 and #7.

The NCC system is designed to enable teleconferencing between and among the elderly and the public and quasi-public agencies which serve them. Each center can both originate and receive broadband video and audio signals. On specific occasions, the system will be expanded to include transactions with other sites, such as the Mayor's Office, principal service agencies, the Planning Commission, local high schools, etc.

Two hundred homes of senior citizens beyond the range of easy access to any of the centers will be equipped with converters enabling them to receive one-way transmission of interactions on the system and to join in by telephone.

Each NCC sends its video and audio signals on its own discrete "upstream" channel. These "upstream" channels are received at the cable system's main terminal (called the "head end.") At the head end, the NCC system's switching director can see and hear all three centers on separate monitors, one for each "upstream" channel. When the system is using only one "downstream" channel, this channel carries the picture which people see on the monitors in the NCCs.

1.3 PROGRAMMING

Programming has been planned to take advantage of the unique characteristics that distinguish the Neighborhood Communication Center system from familiar broadcast models: it is comprised of neighborhood centers and not of individual home terminals; it is interactive.

In such a system, there is no audience: there are participants. These are not TV programs, as they usually are known; they are types of teleconferences. Overall, there are two primary kinds of programming envisioned:

- 1) regular, daily, open-ended sessions;
- 2) special large-scale telemeetings in which the elderly population can communicate directly with decision-makers, i.e., the mayor, the police chief, or officials of the County Medical Society. These telemeetings are planned in cycles to give all the interacters the opportunity to present information, formulate questions, discuss problems, and formulate policy solutions.

In keeping with the interactive nature of the system, all participants will be trained to operate the system for their own use. This training includes planning topics for sessions, researching program material, preparing and producing the sessions, and scheduling the system itself. To

the extent that they are capable, seniors and other participants will also perform operational tasks, such as operating cameras, tape recorders, and video and audio switchers.

Although programming will give priority to subjects associated with primary research objectives, such as Medicaid, Food Stamps, and other services which are discussed in Section 3.0, it will not be limited to these subjects.

The program schedule is open-ended to accommodate additional programming which is expected to be generated by the elderly participants as they become familiar with the system and begin to perceive added uses for it. The range of this user-generated programming extends from light entertainment to education in a variety of areas.*

The system is equally accessible to agency personnel and municipal officials. The availability of portable terminal equipment will give them a parallel opportunity to generate programming directly from their offices as well as from the centers. Training similar to that of the elderly is being offered to social service and municipal officials as part of the implementation plan.

*For a more extensive discussion of programming see: Experiment in Urban Telecommunications, Phase II Solicitation, 74-8, "Programming," pp. 28-45.

Early indications suggest the development of teleconferencing between public officials and private sector officials of hospitals and banks as a potentially useful application, since there are a number of issues important to the elderly in which communication and coordination between the public and private sectors is mutually beneficial. Supermarket chains process food stamps, doctors process Medicaid, banks process direct banking deposits of benefit checks: telemeetings on such topics are planned.

The concept of user-generated programming is based on the design for user-operation of the NCC system. If the participants are to undertake the responsibility of operating the system, it follows that they should be given every opportunity to use it for purposes which they perceive as important to them.

2.0 RESEARCH FRAMEWORK

INTRODUCTION

The primary purpose of the research framework is to determine the costs and benefits of using a system of interconnected Neighborhood Communication Centers (NCCs) for the delivery of public services.

The research design is structured so that both micro- and macro-perspectives are used in the analysis of the NCC system. The cost-effectiveness evaluation of the NCC system in the delivery of specific public services is outlined in Section 3.0. The overall costs of the NCC system are examined in Section 4.0; the social and political impacts on senior citizens and public and private organizations are discussed in Section 5.0. A distinctive characteristic of this system is that the users will themselves be involved in the design of the software of the system, and thus the users will actually be part of the experiment. The evaluation of the communication processes which the users develop in using the interactive system is described in Section 6.0.

Each of these studies is interdisciplinary in nature and draws on the expertise of the entire research team. The data collection and analytical techniques allow a multiple set of measures to be used in the evaluation of the NCC system. A synopsis of the research design follows.

2.1 EVALUATION OF THE EFFECTIVENESS OF THE NCC SYSTEM AS A MEANS OF DELIVERING PUBLIC SERVICES (SECTION 3.0)

An evaluation of the impact of the NCC system on the delivery of public services will be assessed through the analysis of selected service functions. The service functions to be considered will include both federally funded social service programs and general urban municipal services. The NCC system will be evaluated in terms of its performance in the delivery of the following service processes: (1) outreach; (2) dissemination of information from social service agencies; (3) service delivery in a multi-service setting.

2.1.1 Outreach Experiments

2.1.1.1. Medicaid Outreach

A substantial number of elderly people in Reading are

eligible for assistance under the federal Medicaid health assistance program. Despite this, only a small proportion of the elderly are actually enrolled in Medicaid, or are receiving the full range of benefits, at the present time.

NCC programming will be directed toward the provision of the following information concerning Medicaid: who is eligible, what benefits are available, and how and where to apply. The goal of the programming is to create a clearer understanding of Medicaid and how to use it, in an effort to induce the elderly to take advantage of those services to which they are entitled. It is predicted that the efficacy of the program would be significantly improved by projection through the NCC system.

The change of enrollment in, and use of, Medicaid benefits will be traced for treatment and control populations before, during, and after NCC programming. The correlated results will reflect NCC programming effectiveness.

2.1.1.2 Food Stamps Outreach

The absence of a substantial segment of the eligible population in the Medicaid program is similarly reflected in the Food Stamps program. Many elderly people are eligible

for food stamps, yet only a relatively small percentage of the eligible population actually participate in the program. The inadequate dispersal of information on eligibility requirements, scope of available benefits, and practical application have been found to account for the low level of participation in the Food Stamps program. The strong stigma of "accepting charity" associated with this program is an additional factor that contributes to low participation and should be noted at this point.

NCC programming is intended to facilitate the dissemination of information, to reduce the negative associations of public assistance and food stamps, and to effect more optimal use of the system generally. Enrollment rates in the Food Stamps program for experimental and control groups will be tracked and compared before, during, and after NCC programming and will constitute the measure of NCC programming effectiveness in this context.

2.1.1.3 Housing Rehabilitation/Code Compliance Outreach

The city of Reading is initiating major housing rehabilitation and code enforcement activation as part of its Community Development Program. Elderly residents in central city neighborhoods are characterized by a high level of home

ownership; at the same time, home maintenance is a difficult and increasingly expensive process. The city government, in order to maintain viable center city neighborhoods, is concerned with preventing deterioration and decay of housing. Consequently, the elderly are important targets for the city's code enforcement and housing rehabilitation activities. NCC programming will focus on promoting an understanding of the code enforcement system, the procedures for obtaining loans for home repairs, and the techniques for financing and performing home maintenance. Awareness of, and access to, volunteer assistance will be made available through interactive programming as well.

Three factors will be used as indicators of NCC programming effectiveness in this area: the amount of funds obtained by the elderly for home repairs; the number of elderly to be relocated; and the change in the number of sub-standard homes occupied by the elderly.

2.1.2 Information Experiments in Social Service Agencies

2.1.2.1. Dissemination of Program Changes and Innovations:

The Direct Banking Option

Changes in procedures, rules, regulations and forms, in

programs such as Social Security (OASI), are adopted by the elderly with great confusion and disruption. Announcements of innovations or expanded options that are communicated through the mail frequently produce a barrage of requests for clarification and assistance in the form of phone calls and in-person visits to the agency involved. Thus, agency staff time is significantly burdened. In October 1975, a new option, direct banking, will be made available to the elderly. NCC programming will disperse all information regarding participation in the new program. It is expected that the supply of detailed information and special assistance to the treatment population will reduce the demands made on agency staff and expand the number of elderly people who avail themselves of this option.

Since the banking option is a prototype for a class of innovations, it is the first of a series to be programmed on the NCC system. Response rate of the treatment population will be compared with the response rate of the control group and agency visits and phone calls will be tracked for each, thus indicating NCC programming effectiveness.

2.1.2.2. Medicaid and Medicare Claim Form Information Outreach

Under both the Medicaid and Medicare federal health insurance

programs, recipients should file claim forms with some regularity in order to collect benefits. The claim forms are complex and the majority of the elderly must travel to the agency for help in completing the forms. The tendency for recipients, especially with Medicare, is to allow claims to accumulate for an entire year and to file them all in one visit. This generally causes a disruption of work flow for the agency staff and ultimately reduces the number of claims the elderly file. NCC programming will provide the required information and assistance for correct form completion and will encourage elderly people to file claims more frequently. A change in staff, time spent on claim-completion aid, and in the average frequency of claims filed for the treatment and control populations will reflect the effectiveness of NCC programming in this area.

2.1.3 Service Delivery Experiments in a Multi-Service Setting

The Berks County Senior Citizens Council (BCSCC) provides a wide range of services, programs and activities for the elderly. This organization will be located in the Horizon Center which has also been designated as one of the NCC sites. Operating in this context, the NCC system will perform the following three functions: (1) NCC programming

will furnish the elderly in the treatment population with information on Senior Citizens Council activities and services. (2) The NCC system will be used for cable presentation of BCSCC activities and meetings. (3) The NCC system will be used by BCSCC to deliver selected counseling and information services which had been delivered in person. The cost and effectiveness of the NCC system in these three applications will be compared both with previous and simultaneous efforts to deliver services in the usual, non-NCC, manner by BCSCC.

2.2 COST ANALYSIS OF THE NCC SYSTEM

This section states the conceptual and empirical approach to the evaluation of the overall costs of the NCC system as a complement to the cost effectiveness studies described in Section 3.0. The first part of the section outlines a detailed examination of the costs of setting up and operating the NCC system and an extrapolation of these costs for an expanded system. This study is designed to provide practical answers about the costs of replicating this system in other cities.

The aim of the second part of the section is to develop the appropriate methodology for evaluating the overall costs and

benefits of investing in interactive cable system. The purpose of a full scale cost/benefit study would be to estimate the overall dollar savings of investing in interactive cable systems, as distinct from different measures of the effectiveness of interactive cable in delivering different services described for the separate cost effectiveness studies.

2.3 SOCIAL AND POLITICAL IMPACTS OF THE NCC SYSTEM (SECTION 5.0)

The interactive NCC system will generate a wide range of social and political effects on senior citizens and public and private organizations in Reading, Pennsylvania. This section describes the nature of these effects and methodological tools which will be used to examine them.

The specific hypotheses and measurements used to examine the impact of the NCC system on the behavior of senior citizens are set forth. Three dimensions are identified:

- (a) the effect of the system on the utilization of services;
- (b) the effect of the system on the attitudes and beliefs of the elderly both about themselves and the agencies and organizations with whom they might potentially interact; and

- (c) the effect of the system on the capacity of the elderly to participate in political and social processes of Reading.

The impact of the NCC system is likely to extend far beyond the public service experimental applications to the overall set of public and private organizations in Reading. In order to determine the intended and unforeseen consequences of the system, a specific portion of the research is also designed to examine the impact of the NCC system on community organizations and on existing communications media in Reading.

2.4 ANALYSIS OF THE DEVELOPMENT AND OPERATION OF THE NCC SYSTEM (SECTION 6.0)

The research related to the implementation of the system will serve two purposes: to provide continuous feedback to the implementors, and also to provide a comprehensive summary of the development and operation of the system. The first goal is related to the second in that whatever changes result from the action research will be analyzed subsequently in the summary.

The principle underlying the action research is that of evolutionary optimization of the system, i.e., to enable the system and its users to adapt readily to the knowledge

gained as participants become increasingly familiar with the interactive process.

The original implementation design was based on the previous experience of the Alternate Media Center and of other research organizations. It is expected that the development of the NCC system will lead to fundamental changes in several aspects of the initial implementation design, such as the technical configuration of the system, terminal equipment, personnel skills, interactive procedures, programming, and governance of the system.

A number of mechanisms have been set up to record and monitor the process of developing the NCC system. In the final summary, these events will be chronicled and related to the evaluation of the selected service delivery functions.

2.5 CONTROL DESIGN AND SAMPLING FRAME (SECTION 7.0)

To conduct evaluations of the NCC system and service-delivery functions a quasi-experimental research design is proposed, with before and after measurements on treatment and control groups. In addition, provisions are made to assess the utility of one-way diffusion of the NCC-generated signal to home-TV receivers. Data sources will be composed of interviews

with elderly and various agency staff as well as agency and project records.

2.5.1 Control Design

The treatment and control groups will be compared for any changes in the dependent variables which are determined by before and after measurement. The impact of the NCC system will be assessed in three different kinds of residential sites: publicly owned high-rise apartments for the elderly, publicly owned garden apartments with mixed-age residents, and private residential neighborhoods where the elderly are dispersed among other residents. In addition, 200 homes in the treatment population will be set up with video home terminals as either substitutes for, or supplements to, NCC access.

2.6 NOTE ON CONCEPTUAL IMPLICATIONS OF THE EXPERIMENTAL DESIGN

The nature of the NCC system presents significant challenges for the experimental design and a unique opportunity to develop the appropriate measures for evaluating such a system in the field. The implications of the interactive system for the experimental design are considered in terms of the

following factors:

- (1) The experimental nature of such a system
- (2) The relation of the system to service delivery
- (3) The flexibility of programming
- (4) The unanticipated effects of introducing a new technology.

2.6.1 The Experimental Nature of the System

As explained in the original proposal, the NCC system as a whole is the "experiment". Therefore, the nature of the control for the purposes of comparison is of crucial importance. Ideally, one might seek to compare the impact of this system on Reading to a city of comparable character without such a system, but this is not feasible. Consequently, the research has been selectively designed to test the effects of the system on various configurations of controls depending on the nature of the specific experiment. A control group, for the purposes of this research, is a group without access to the system; in other words, a group assumed not to have been exposed to the experimental effects of the NCC system. The problems of isolating such control groups adequately are discussed in great detail in Section 7.0 of this proposal.

2.6.2 The Relation of the System to Service Delivery

The NCC system is designed to be used in the delivery of services to the elderly in an enormous array of different applications. The system itself has unique opportunities for interaction which might well be expected to affect different services in substantially different ways. This means that the research design is constrained from making simple experiments in providing the same service in different ways. The goal of the design has therefore been to select an appropriate series of experiments that will assess the use of the NCC system for the delivery of very specific services. The choice of experiments and the criteria for their selection are described in detail in Section 3.0. The basic methodology for assessing the impact of the NCC system on service delivery is on a before and after basis. Careful analysis of the operation of various services will be conducted on a continuing basis, so that the process of effecting change, as well as the overall impacts, can be evaluated.

In addition, the three NCCs have been located in different kinds of residential configurations on the hypothesis that they represent inherently different communications systems; again, see Section 7.0 for a further description. Control and experimental groups have been selected for each, and a

further group of elderly are to be equipped with converters so that they can view the interactive programs one-way. Therefore it will also be possible to evaluate the different impacts of service delivery by center and to make comparisons between the service delivery in three contexts: over two-way interactive; one-way viewing of interactive programming; and finally, of those with no access to the system at all.

2.6.3 The Flexibility of Programming

The participation of the elderly in the development of programming is designed to assure that the system is responsive to the needs of the clientele it is supposed to serve. This means that the programming decisions must be reasonably adaptable at the outset. The likelihood of successful experimentation is thus enhanced by the capability of modifying the programming to meet the needs and interests of both the elderly and the service agencies as they emerge.

The vital importance of this flexibility in programming means that the research design cannot be rigidly tied down. Therefore, the strategy employed in the design and evaluation has been twofold. First, a series of specific services, for which programming efforts are definitely committed, has been carefully chosen to reflect different dimensions of service delivery problems. The criteria for this selection are

discussed in detail in Section 3.0. Second, a prototype has been chosen which stands for an entire class of information experiments, those related to changes in social service programs (e.g. the direct banking option, discussed in Section 3.2.1). The methodology for evaluating this prototype is transferrable to other such subjects. Decisions as to substantive content of this type of program will be made in accordance with ongoing federal mandates, the priorities of service agencies in Reading, and the interests of elderly clients of the system.

2.6.4 The Unanticipated Effects of Adopting New Technology

Prior experience has clearly demonstrated that very often the most important effects of introducing any new technology are those that, by their very nature, cannot be anticipated. Therefore, by definition, the research experiments described in this proposal should not be considered the only experimental results of the NCC system. Indeed, as stated at the outset, it is the ongoing nature of this system that makes it possible to include such unanticipated results. The entire research design is geared to identifying the qualitative and quantitative effects of the overall impact of the system, as well as of specific service delivery functions. The problems of ensuring an adequate tracking system to observe

these effects are an important theme of the entire research effort. The nature of these unanticipated effects of the interactive system on service users and deliverers is discussed in Sections 5.0 and 6.0.

3.0 EVALUATION OF PUBLIC SECTOR SERVICES VIA INTERACTIVE NCC SYSTEM

Introduction

This section describes the experimental applications of the NCC system in the delivery of social and municipal services to the elderly.

The agencies and organizations that deal with the elderly, the programs, and the services and benefits that they offer, are briefly described in this section. The criteria that were applied to selecting the specific services and programs for experimental delivery via the NCC system are then set forth. In each case there was a perceived need, involving the delivery of the service, for which it was felt the NCC system might have a useful and measureable impact.

The experimental applications have been grouped under four main headings according to the type of service to be provided through the NCC experiment.

The main headings are:

- 3.1 Outreach Experiments
- 3.2 Information Experiments in Social Service Agencies
- 3.3 Service Delivery Experiments in a Multi-Service Setting

Under each heading the individual experimental applications are set forth in detail. For each we describe:

- why the application was selected
- the specific form and content of the NCC programming effort
- the methodology with which the application will be evaluated as to its costs and effectiveness.

Background

A series of preliminary investigations was conducted to determine those agencies that are currently providing services to the elderly population of Reading. Information was obtained through a series of interviews with each of the major public and quasi-public agencies engaged in the provision of such services. An inventory of programs and services was compiled and assessed in order to identify areas in which the NCC system might have a decisive and measurable impact.

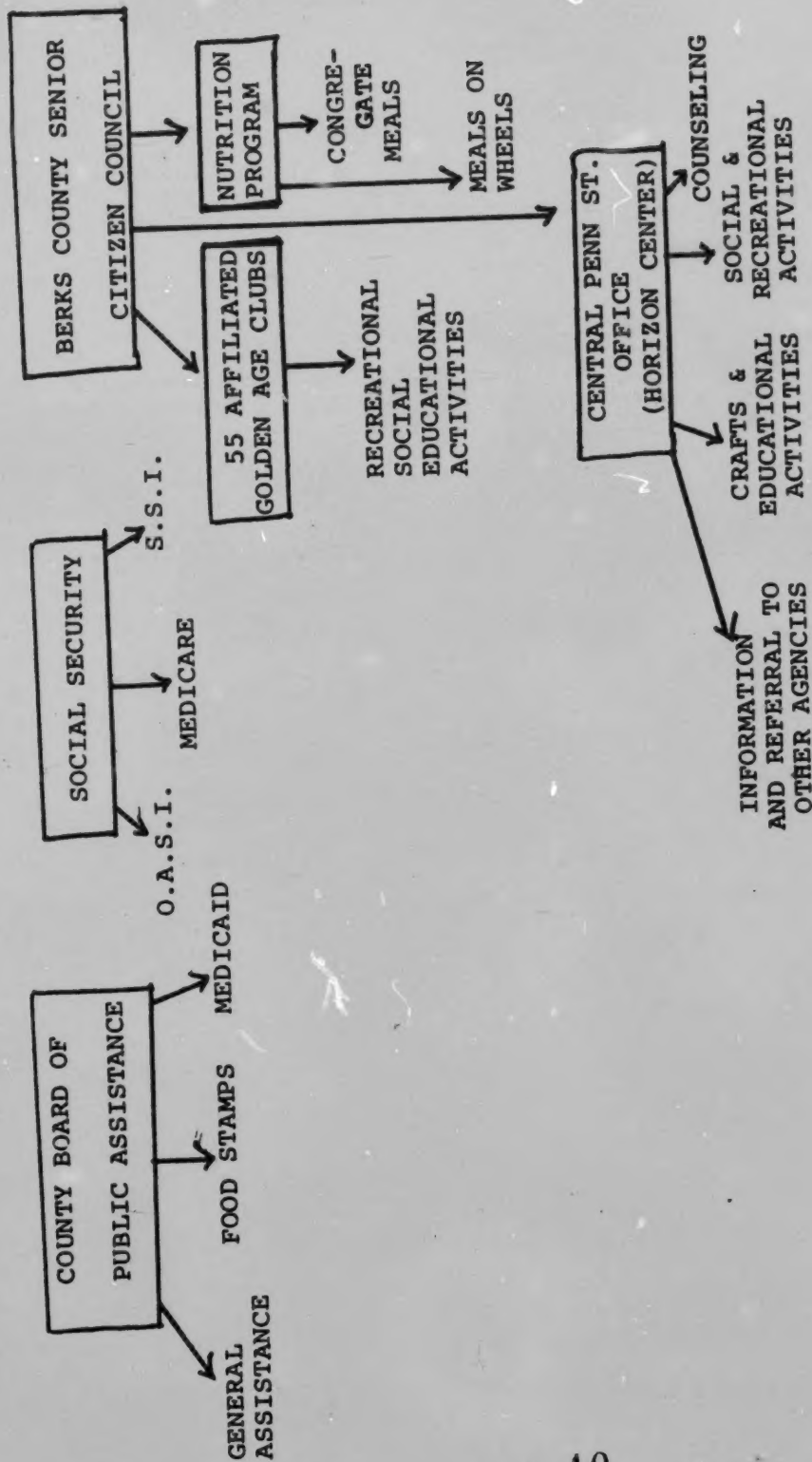
Social Services

Currently, three agencies in Reading supply the major proportion of social services to the elderly: The District Office of the Social Security Administration (public); The

County Board of Public Assistance (public); and the Berks
County Senior Citizens Council (quasi-public).

Fig. 3.1 (p. 30), lists these agencies and the programs they
administer for which the elderly are potentially eligible.
For details, see Appendix A.

Figure 3.1



Out of this broad inventory of social services the following have been selected for experimental application over the NCC system:

<u>Agency Administering Program or Service</u>	<u>Program or Service</u>	<u>NCC Application</u>
County Board of Public Assistance	Medicaid	Outreach Experiment
County Board of Public Assistance	Food Stamps	Outreach Experiment
Social Security District Office	OASI & SSI	Information Experiments in Social Service Agencies
County Board of Public Assistance	Medicaid	Information Experiments in Social Service Agencies
Social Security District Office	Medicare	Information Experiments in Social Service Agencies
Social Security District Office	OASI & SSI	Information Experiments in Social Service Agencies
Berks County Senior Citizens Council	Horizon Center	Service Delivery Experiments in a Multi-Service Setting
Berks County Senior Citizens Council	Selected Services & Activities	Outreach Experiment
Berks County Senior Citizens Council	Selected Services	Service Delivery Experiments in a Multi-Service Setting

Municipal Services

Although few of the municipal departments run programs designed specifically for the needs of the elderly population of Reading, several of the services offered by municipal departments have a substantial effect on the elderly.

Two of these have been selected for special attention in the NCC system:

1. Housing rehabilitation/code compliance (home maintenance and code enforcement procedures)
2. Law Enforcement (citizen/police relations)

Criteria for Selection of Applications

The following criteria were applied in making a selection of public services for delivery via the NCC system:

1. Perceived need for increased information about the program or service, or more efficient delivery of the service, by either the providing agencies or the elderly recipients.
2. Technical feasibility for delivering the service or information about it via the NCC system.

3. Applicability to experimental design and evaluative research.
4. Potential for replication in other communities.

Experimental Applications

What follows is a detailed description of these experimental applications of the NCC system to the delivery of public services. The applications have been divided into three classes:

- outreach experiments
- information experiments in Social Service Agencies
- service delivery experiments in a multi-service setting.

These experimental applications were selected because of their positive relationship to the four criteria listed above. They combine the capabilities of the NCC system with the needs of both the elderly and the agencies that are providing services in Reading.

Much of the data for service delivery evaluation will be generated by the agencies themselves. The specific information to be collected is described in greater detail in the section for each experimental application. This section outlines the general nature of this data. Basically, the data is of two forms: it is either taken from existing

records; or will involve special research for this study. In either event, arrangements have been made for the collection of this data, with the confidentiality of client records being ensured. No names will be used and the data will be collected by agency supervised people, not N.Y.U. researchers.

There are four kinds of data that will be collected:

1. number of elderly receiving services of agency;
2. time spent by agency personnel dealing in various functional capacities with the elderly;
3. new applications for services, by area in Reading, corresponding to the areas from which the control and experimental groups will be surveyed.
4. tracking of the effects of specific programming as the application demands. This may be in the form of phone calls, inquiries, and so forth.

Arrangements have been made with the County Board of Public Assistance, the Social Security District Office, Berks County Senior Citizens Council, and appropriate municipal agencies for specific information in the base period.

3.1 OUTREACH EXPERIMENTS

The NCC system is essentially a medium for information, communication, and interaction. The impact of the NCC system on the outreach of selected social services represents the heart of the effort to evaluate quantitatively the effectiveness of an interactive cable system in enabling more people to avail themselves of the services to which they are entitled. Outreach refers to the effort to inform potential recipients of their right to obtain services for which they are eligible. This might also be called the information role of the service supplier. The success of any outreach program can be measured by the change in the frequency with which the target population knows about and uses benefits and services that are available to them. However, the extent to which people apply for, and receive, benefits from the programs to which they are entitled (often referred to as the uptake for the service) depends on a number of other factors that affect the potential client. Thus, people may not apply for a service because they do not know that they are eligible for it; or they may know about it, but have a difficult time locating or obtaining the service. Finally, they may be aware of the existence of, and their eligibility for, a service, but be unwilling to apply for it because they feel it is demeaning; in short,

there is a stigma attached to program participation in some cases.

These areas have been chosen for experimental application of the NCC system to test the costs and effectiveness of using this system for outreach.

Outreach will be done over the NCC system for:

1. Medicaid
2. Food Stamps.

3.1.1 Medicaid Outreach

Medicaid is the federal and state funded program for medical assistance. Although primarily targeted on low-income people and families, benefits, in the form of cash reimbursement for medical expenses as well as direct vendor payments, are also available to people within a very wide income range who have proportionately high medical expenses.

A large potential pool of eligibles exists among the elderly in Reading. Data obtained from the Wave I survey will permit definition of the exact number of eligibles in experimental and control groups. Initial research with both Social Security and the County Board of Public Assistance indicated that, for several reasons, a sizeable proportion of those eli-

gible for Medicaid benefits were not enrolled in the program.

Outreach problems arise for the elderly because most of the people eligible for Medicaid are currently receiving SSI or OASI and Medicare which are administered by Social Security. Medicaid, however, is administered by the Bureau of Public Assistance. Outreach on OASI, Medicare, and SSI has been good and there is reason to believe that most eligibles are already receiving benefits. All SSI recipients are automatically eligible for Medicaid and many OASI - Medicare recipients are also eligible. It is clear that if Social Security referred all its elderly beneficiaries to the County Board of Public Assistance then the uptake on Medicaid would match that of OASI and SSI. An inter-agency referral system has been in existence since January, 1974 but has been sparsely used, only about 12 to 14 times since its inception. Thus, there is a basic problem of information about Medicaid eligibility: eligible people do not know about the benefits and are not familiar with the agency that administers it.

Moreover, the administering agency, the County Board of Public Assistance, is itself viewed with suspicion and discomfort by many of the elderly in Reading. This agency is associated with "charity programs", "handouts", and

the like. Personnel interviewed at several agencies repeated this observation as an explanation for the low rate of participation by the elderly in "welfare" administered programs. In contrast, the Medicare Health Insurance program run by Social Security has about a 90% uptake rate in Reading. The explanation offered for this is that Medicare is viewed as a "paid for" or "earned" insurance program since it is administered by Social Security and since recipients do pay premiums.

The Wave I survey contains a battery of questions aimed at assessing whether or not the elderly actually do perceive the County Board of Public Assistance and its programs in this manner. The stigma attached to these programs may in part explain the low uptake of both Food Stamps and Medicaid. If so, the interactive and communicative nature of the system can be used to shape attitudes of potential users of services like Medicaid.

In addition, the fact that Medicaid is a federal and state program insures an adequate potential supply of benefits regardless of the relative "success" of outreach on this benefit.

Program Content

Given the goal of reaching out among the elderly population to increase applicants and enrollees for Medicaid, the following program content is planned.

1. Information and Referral:

- what Medicaid is
- how to enroll and where
- who is eligible
- benefits available.

2. Strategies:

- to reduce stigma of the County Board of Public Assistance
- to reduce stigma of the Medicaid program.

3.1.2 Food Stamps

The federally-funded Food Stamp program involves in-kind benefits, food stamps or vouchers, which permit the recipient to purchase food at greatly reduced prices. Participants purchase the stamps at a local bank with authorization coupons they receive in the mail from Public Assistance. They then use the food stamps to buy food at the grocery store. The value of what they can buy with the stamps is greater than the cost of the stamps to them.

The Food Stamp program is dramatically under-subscribed among the elderly in Reading; local Public Assistance administrators estimate the current uptake rate at from 5 to 10% of the eligible elderly population. Again, exact measures of the number of people enrolled in the program who are using food stamps will be drawn from the Wave I survey for both experimental and control groups. As with Medicaid, the Food Stamps program is federally-funded. Benefit levels and eligibility criteria are determined on a federal and state level and unlikely to change in response to shifts in demand for food stamps in Reading.

The outreach problems associated with the Food Stamp Program are similar to those for Medicaid. The program is administered by an agency, the County Board of Public Assistance, which is either unpopular with or unfamiliar to many of the elderly. Every elderly person who is eligible for food stamps is also eligible for OASI or SSI but the agency administering OASI and SSI is not the agency administering food stamps.

For the elderly, there is a sense of stigma attached to the Food Stamp program and there is reason to expect that this stigma is even more inhibiting than in the case of Medicaid.

For food stamps to be used, the recipient must present them at the local grocery store when making a purchase. Friends and neighbors standing in the cashier's line, as well as the grocer or cashier, may actually see that the recipient is using food stamps. This was the view expressed by numerous local social service workers as to why the elderly do not like food stamps.

Finally, there is, according to agency personnel, a belief that in order to qualify for food stamps one must sell one's car or home and divest oneself of all resources. In fact, this is not the case. Consequently there are: 1) informational problems about the benefit and where to get it; 2) stigma attached to applying for and using the benefit.

Programming for Food Stamps Outreach will be conducted as follows:

1. Information and Referral:

- what Food Stamp Program is
- who is eligible
- where to go to sign up
- what are benefits
- how to use food stamps
- which grocers will accept them
- where is the nearest place to buy food stamps.

2. Strategies:

- to distinguish the Food Stamps program from "charity"
- to reduce the stigma of Public Assistance office and food stamps.

3.1.3 Evaluation of Outreach Experiments

Both the Medicaid and Food Stamp outreach applications involve using the NCC system to carry out a function that does not exist at the present time on any meaningful scale and which will probably not be carried out by the agencies in any comparable way during the period of the experiment. In both cases the Bureau of Public Assistance would like to increase their outreach, but has been unable to do so because of insufficient staff or funds. Caseworkers were at one time sent to grocery stores to distribute circulars and put up posters about food stamps but this was a very limited effort. In addition there was a massive federally-funded "SSI Alert" outreach effort, in late 1973 and early 1974 when the SSI program was introduced, but such campaigns have been sporadic and have occurred only when federal or other special funds were available to finance them. The costs and effectiveness of performing outreach for the Medicaid and Food Stamps programs over the NCC system will then be compared with:

1. the costs and effectiveness of past outreach efforts or other similar programs such as the "SSI Alert";
2. the costs and effectiveness of ongoing agency outreach efforts on such programs for the control group during the experimental period.

On the bottom left of the charts on pp. 46 and 47, the specific measures that will be used to assess the costs of the NCC outreach programming on Food Stamps and Medicaid are set forth in detail. These costs are expected to accrue to the elderly (in terms of staff time inputs to prepare and present NCC programming) and to the NCC system (incremental cost of this programming plus an appropriate share of the fixed costs of establishing and running the system). The various sources for the data on these inputs are listed in parentheses after each.

On the top left of these two charts are the specific measures that will be used to assess the effectiveness of NCC outreach programming and the data sources for them. In the column on the right are listed the specific, analogous, measures of costs and effectiveness of other (non-NCC) outreach efforts. There are two control groups here: the survey control group and the target group of past outreach efforts.

The survey control group is drawn from the elderly population of Reading (matched for age, income, and other factors with the experimental group) and which does not have access to NCC programming. They are included here for the following reasons:

1. to control for possible exogenous variables acting to raise or lower the enrollment and application rates of the elderly in Reading in these two programs coincident with the NCC outreach experiments; and
2. to provide some basis for comparison between the NCC effort and the costs and effectiveness of the outreach activities traditionally carried out by the agencies.

The agencies will continue to carry on these activities with the survey control group during the experimental period. Although the non-NCC outreach efforts by the agencies are limited it will be possible to undertake comparisons if outreach via the NCC system similarly requires relatively small investments of time and staff.

The other control, represented by previous massive, non-NCC outreach efforts like the SSI Alert, will also be compared as to costs and effectiveness with the NCC outreach experiments in order to present a balance in terms of overall scale of the effort.

Finally, a more comprehensive study of the stream of costs and benefits from outreach is proposed as part of the methodological study; see: Section 4.2.1.

FIG. 3.2

COSTS AND EFFECTIVENESS OF MEDICAID OUTREACH APPLICATION

EXPERIMENTAL GROUP		CONTROL GROUPS	
WITH ACCESS TO NCC PROGRAMMING		SURVEY CONTROL GROUP WITHOUT ACCESS TO NCC	
ENTIRE ELDERLY POPULATION OF READING AT TIME OF SSI ALERT EFFORT			
-Response rate of elderly (HEW Data & Social Security)			
Enrollment rate following SSI Alert of elderly			
-to agencies & others of outreach efforts on SSI alert			
-to Public Assistance & others of outreach efforts made during experimental period of a non NCC nature (County Board of P.A.)			
-to NCCs of Medicaid Programming (NCC input logs)			
-to Public Assistance & other agencies of staff time input to NCC effort (NCC input log)			
COSTS			

FIG. 3.3

COSTS AND EFFECTIVENESS OF FOOD STAMPS OUTREACH APPLICATION			
EXPERIMENTAL GROUP		CONTROL GROUPS	
WITH ACCESS TO NCC PROGRAMMING		SURVEY CONTROL GROUP NO NCC ACCESS	TARGET GROUP OF FOOD STAMPS OUT- REACH EFFORT IN
-# of new applications for food stamps (County Board of P.A.) estimated # eligible (Wave I Survey)		-# of new applications for food stamps (County Board of P.A.) estimated # eligible (Wave I Survey)	-response rate of target group with control for eligible proportion if possible
EFFECTIVENESS		-# of new enrollees in food stamps (County Board of P.A.) estimated # eligible (Wave I Survey)	
-to NCCs of Food Stamps Programming (NCC input logs)		-to agency (County Board of P.A. & Others) of any outreach on Food Stamps during experimental period of non-NCC nature	
COSTS		-to agencies of staff time input on NCC effort (NCC input logs)	
		-to agencies & others of such efforts	

3.1.4 Housing Rehabilitation/Code Compliance

Reading's Housing Problems and the Elderly

Housing conditions are a major issue of public concern for citizens and policy-makers in Reading. The recently completed Reading Community Plan Task Force report cites extensive City Planning Bureau studies to show that the quality of the city's housing stock is deteriorating. In 1968, 20% of housing units were estimated to be deficient; by 1970, the percentage of deficient housing had risen to 30%. Row houses constitute two-thirds of Reading's housing stock. 87% were built before 1931. The median home value in Reading is \$8,500.¹

The Berks County Planning Commission's Housing Market Analysis summarizes the housing plight of the elderly as follows:

- "-being on fixed incomes, it is becoming more and more difficult for elderly homeowners to properly maintain homes purchase in earlier years with rising costs of materials and labor, which then leads to housing deterioration and a decline in the value of the home below its average resale value;

- elderly renters on fixed incomes are being particularly hard hit by rising rental costs;

¹

Housing Market Analysis. Berks County Planning Commission, 1972.

- many elderly are widows and living alone in large single family or row house units which produces concern for personal safety, and;
- many elderly are not physically capable of maintaining larger homes purchased earlier in life, but do not sell their unit because they wish to retain homeownership, or feel they cannot afford other housing on the market."

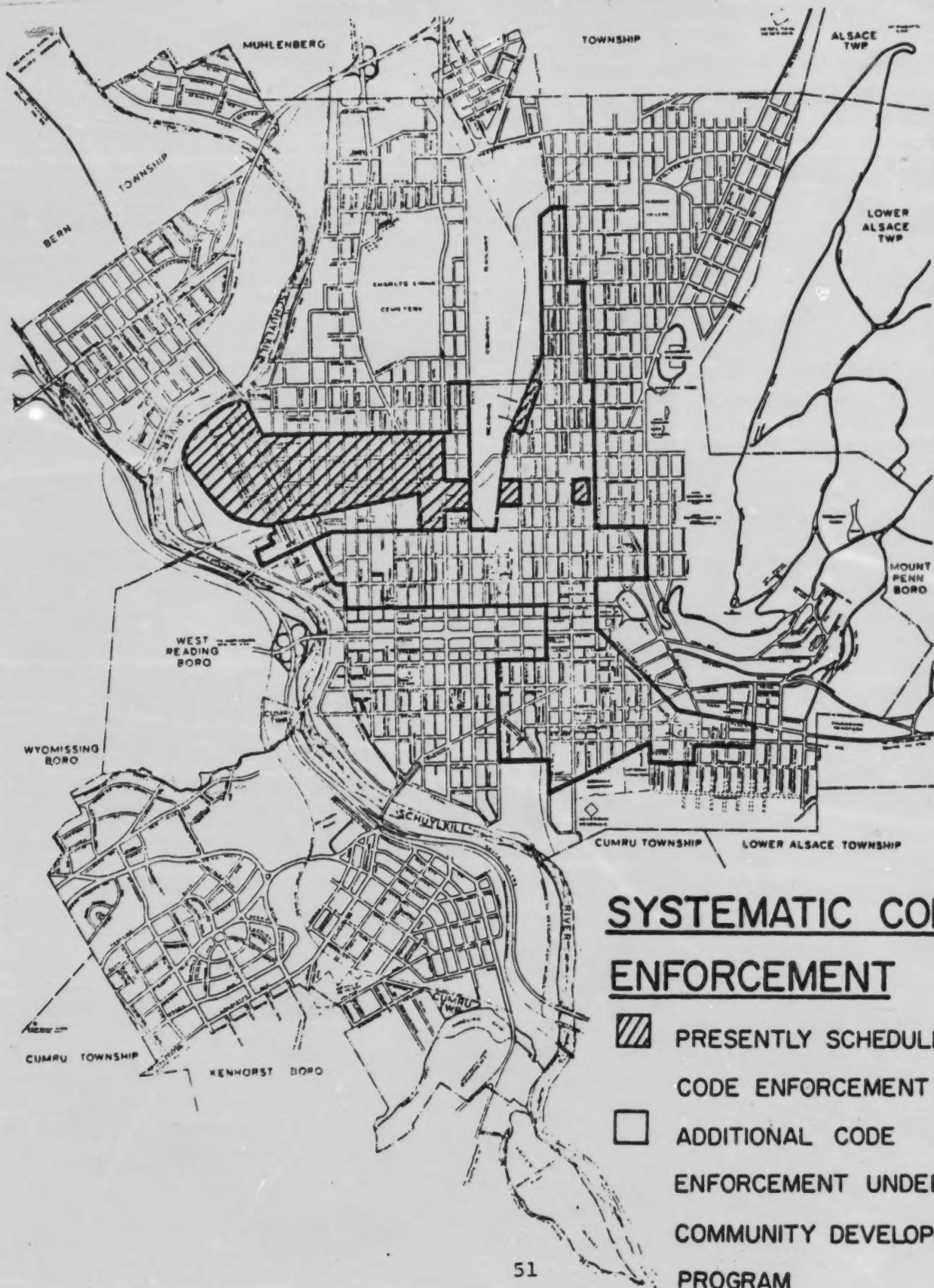
The housing problems of the elderly are an important link in the chain of circumstances producing urban blight. The elderly keep low-cost housing off the market, housing that could be used by low-income young families. Although the potential clients for low-cost housing are relatively poor, their incomes are higher than those of the elderly, so they can better afford to maintain the housing. Thus, when their incomes rise and they can afford to pass the home along to another young family, the housing has not depreciated abnormally. However, the elderly homeowner is likely to keep a house for thirty years without proper maintenance. Plumbing, electricity, plaster, heating, etc. become outmoded or fall into disrepair. The experience of Reading's code inspectors attests to the truth of this. When the person dies, the house is worth much less than if it had been properly maintained. By this time, the amount that must be spent to bring the house up to minimal standards is a large proportion of the value of the house. The very low-income person who can afford the depreciated purchase price of the house is not likely to be able to afford extensive maintenance.

Another possibility is that the house is purchased by a speculator, treated to cosmetic repairs, and sold or rented at an inflated value to a low income family which is limited in its choice of neighborhood. In any event, the house can now be considered permanently blighted.

The consequences for the elderly and the city as a whole are severe. The elderly owner struggles to live in the discomfort of a deteriorating house; his original investment in housing declines. Moreover, for the city, the tax base suffers as the quality of its housing stock deteriorates.

Reading's Community Development Plan

The Community Development Act of 1974 provided Reading the opportunity to address its housing problems in addition to the related problems of declining physical environment and static economic development. Reading's Community Development proposal emphasizes rehabilitation of existing housing and restoration of the declining neighborhood environment. Most of the activities involved, including rehabilitation, demolition, and new construction will be carried out in accordance with a systematic code enforcement plan. The area in which the plan will be carried out is shown on the map on the following page.



It is expected that 75 buildings will require demolition. Approximately 50 vacant substandard structures whose owners are unwilling to undertake repairs will be purchased, rehabilitated, and resold. The remaining substandard buildings are expected to be brought up to code standards by their owners. For owners who are unable to finance their own repairs, \$1,000,000 has been designated for loans and grants in funds from the Community Development Act. (See Appendix E.)

A large proportion of homeowners involved in the code enforcement process will be elderly. About one-fifth of the residents of the neighborhood involved are elderly and, a very high percentage of Reading's elderly are homeowners, as indicated in Table 1.

Table 1. Home Ownership and Rentals in Reading, Pennsylvania

	<u>% Owners or Buying</u>	<u>% Renters</u>
One-person households		
under 65	43	57
over 65	60	40
Two or more person households		
under 65	75	25
over 65	83	17

Source: Housing Market Analysis, Berks County Planning Commission, 1972.

The elderly have more difficulty in dealing with the code enforcement process than younger people, according to the head of Reading's Code Services Bureau. Elderly people often do not understand the purpose of the housing inspection and do not know how to respond to the mandate for repairs. They are frequently not aware of their rights or of the availability of a hearing process. Finally, they usually have few resources with which to make the desired repairs. Even if they do have the resources, they are often reluctant to invest their money in home improvements. Like other inner-city property owners, they know that the value of property is determined by neighborhood environment as much as by the quality of the individual house. As a result they feel that the benefits of their investment would be negated unless they are accompanied by similar efforts on the part of their neighbors.

In addition, the elderly are often confused about exactly how to implement the code inspector's suggestions and requirements. Although the code services staff is available for technical consultation, people are often afraid to ask for help from them. Code enforcement offices are typically short-staffed as well, and are therefore not able to spend as much time in public information and education as they would like.

As a consequence of these limitations, an informal policy has developed in which elderly homeowners are treated differently than other code violators. Because of the immensity of the problem, the city simply has not had the funds to enforce the code where the elderly were concerned. Unfortunately, this meant neglect of a substantial proportion of the city's housing stock.

Federal funds provided through the Community Development Act will make many resources available that have been lacking until now. Funds have been provided for additional staff, management, and planning. In addition, funds will be available in the form of loans and grants to assist homeowners who are unable to finance repairs themselves.

Thus, the relationship between the city's code enforcement program and the elderly has been altered. However, even though resources now exist to assist the elderly in their housing problems, it is far from certain that they will be used. Elderly citizens must understand the code enforcement process and must have the information they need about how to comply. Most important, information concerning funds available for rehabilitation must be made available to them.

The neighborhood telecommunication system is ideally suited to helping to make the Community Development Program work and to bring its benefits to the elderly. The types of

information needed by a person interested in complying with code requirements by repairing his home, particularly if he wishes to receive financial aid for doing so, are highly diverse and are obtainable from a variety of different sources, both public and private. Simply to identify the types of information needed and to locate their sources is a considerable task for a person of any age; actually to obtain this information requires days of energetic legwork. The NCC system provides a single channel for information and a single place where all types of information are available.

Citizen Participation in Community Development Planning

The Community Development program is committed to involving citizens in planning and policy making. A portion of the budget is specifically earmarked for citizen participation and preliminary plans for a citizen participation system have been drawn up. The plan, at present, is to provide several different avenues for citizen input, including public hearings, surveys, and review of plans by existing citizen organizations. The NCC system, operating through the Horizon Center and encompassing a specific neighborhood, constitutes such a citizen organization. Thus, it would have the right to

review, discuss, and contribute to Community Development plans for the neighborhood involved.

The information sessions on code enforcement and home improvement should give rise to some questions and problems that cannot be answered within the immediate context of the discussion but are recognized as general policy considerations. For example, the documents submitted to the federal government do not discuss the effect of home improvements on tax assessment. This is generally recognized as one of the barriers to investment in home improvement. In some cities, senior citizens who have improved their homes have been exempted from tax increases as an incentive. It may occur to program participants that such an exemption should be included in Reading's program. The citizen participation program will afford them an opportunity to advocate such an addition to the Community Development Plan.

Service Goals

- to reduce the amount of displacement and relocation of elderly residents of neighborhoods affected by systematic code enforcement
- to help elderly citizens obtain loans and grants for housing rehabilitation

- to improve access to information about code enforcement and home repair for the elderly
- to assist the elderly in repair and rehabilitation of their homes.

Programming

A list of programming topics, as well as suggested techniques and information resources, is listed below.

Program Content

What is Code Enforcement?

- Why does the city do it?
- Contents of the Housing Code
- Operations of inspectors
- How individual is informed of needed repairs

Know your rights: the hearing process.

What to expect if relocation is necessary.

Financing your repairs:

- Pros and cons - when are home repairs desirable for the older homeowner?
- Obtaining federal grants and loans
- Obtaining bank loans

The Community Development Program: What's In It for Us?

- How does it affect elderly homeowners' personal decisions to invest in repairs?

What determines the value of a home?

How do we determine which repairs are most important?

Selecting craftsmen and tradesmen

Consumer protection

Volunteer help:

- resources among the elderly themselves: mutual help

- community resources

Citizen Participation in Community Development

- Issues to be derived from problems and questions encountered during information and discussion sessions.

Several citizens' groups and institutions in Reading will be of special help in this programming series. The Reading Vocational Technical School will allow students from the school to assist elderly homeowners with advice about home repairs and to perform the actual repair and rehabilitation work itself. Teleconferences with the faculty and students of the school will also provide general advice on repairs and discuss particular problems. Moreover, senior citizens at the other NCCs located in public housing complexes will participate in "skill swap" sessions to allow the elderly to assist each other in home maintenance programs.

The Berks County Senior Citizens Council has a Housing Committee and an Action Committee -- the latter devoted to advocacy for the elderly and supporting legislation in

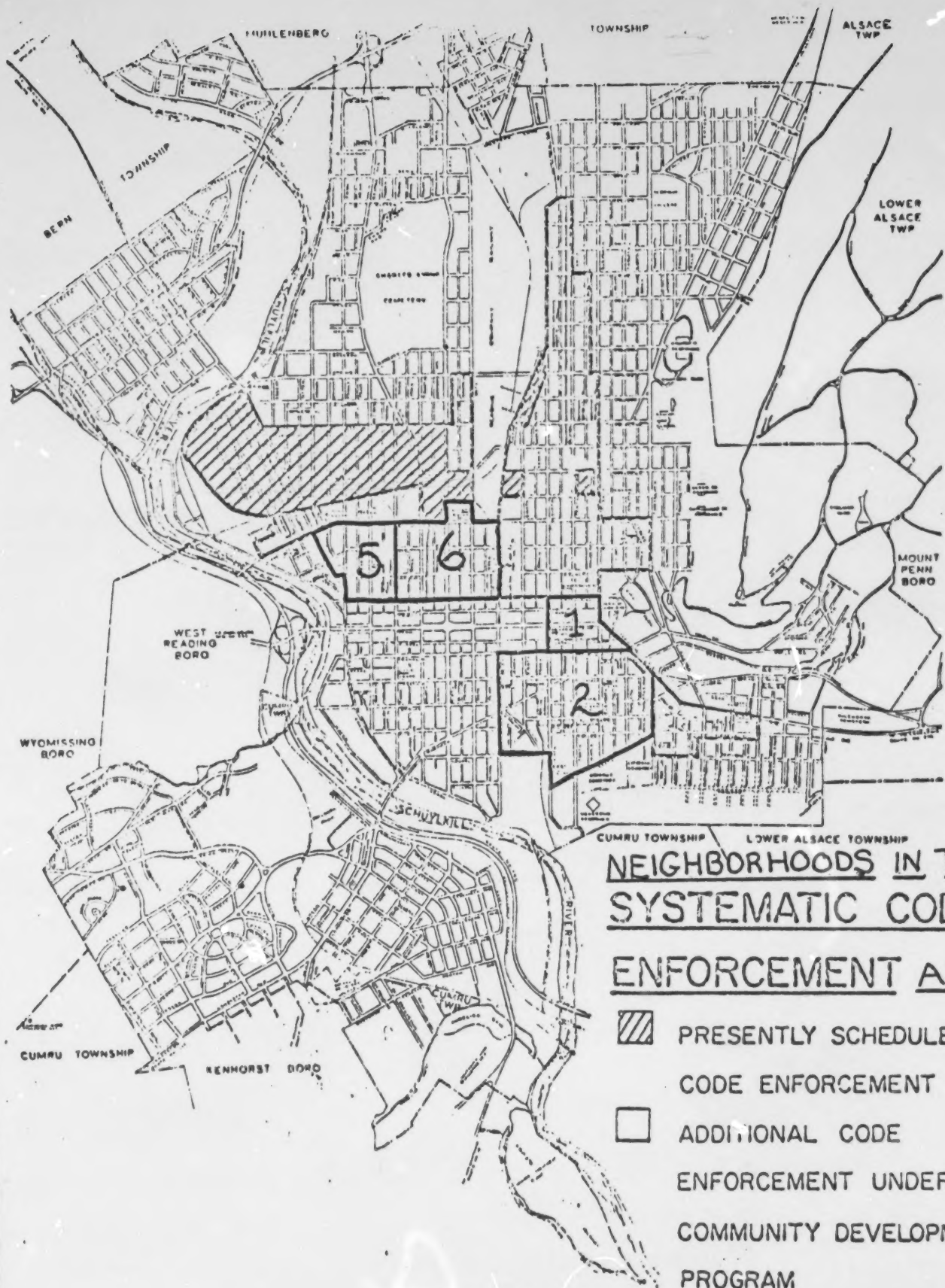
the interest of the elderly. Both groups could probably assist in identifying and articulating the kinds of community needs and concerns that should be part of the citizen input into the Community Development Program.

Evaluation of NCC Programming

The Reading Planning Commission has divided the city into 23 neighborhoods for planning purposes. The map on the following page shows the Systematic Code Enforcement Area divided into the neighborhoods with which it overlaps. These neighborhood boundaries will be used for purposes of defining experimental and control groups.

Table II. Control/Experimental Neighborhoods for Housing Rehabilitation Code Enforcement

<u>Experimental Groups</u>	<u>% Elderly</u>	<u>% of Dwellings Needing Major Repairs</u>
Neighborhood 1	22.59	26.6
Neighborhood 2	16.02	23.7
<u>Control Groups</u>		
Neighborhood 5	10.91	24.9
Neighborhood 6	20.98	27.1



NEIGHBORHOODS IN THE
SYSTEMATIC CODE
ENFORCEMENT AREA

-  PRESENTLY SCHEDULED
-  CODE ENFORCEMENT
-  ADDITIONAL CODE
-  ENFORCEMENT UNDER
-  COMMUNITY DEVELOPMENT
-  PROGRAM

The experimental and control neighborhoods have a comparable degree of housing deterioration and comparable percentages of elderly residents. This is achieved by using a combination of neighborhoods 1 and 2 for the experimental group and neighborhoods 5 and 6 for the control groups which have the desired combination of characteristics.

The four neighborhoods are well matched in terms of housing deterioration since all have between 23 and 27% of dwellings needing major repairs. Neighborhoods 1 and 2 have about 23 and 16% elderly: while neighborhoods 5 and 6 have about 11 and 21%. This indicates that the elderly form a somewhat greater proportion of the population in the experimental area, but not extremely so.

The Horizon Center NCC is located in Neighborhood 1. There is some possibility of mixing between experimental and control populations when word of the program is disseminated. However, it is not anticipated that systematic code enforcement will proceed in both areas simultaneously. According to the City Code Services Bureau the two areas will be inspected at different times. Steps will also be taken to publicize the NCC system programming only in the experimental neighborhoods, through churches, local organizations, and

neighborhood newspapers.

The experimental and control areas will be compared with regard to the following measures .

Measures of Effectiveness

- number of substandard homes occupied by the elderly that have been brought up to code
- number of elderly who must be relocated from substandard homes
- amount of funds obtained by the elderly for home repairs
 - from public sources
 - from private sources

Data to complete all of the measures are available from the Code Services Bureau and from the Community Development Program's administration. Code Services has recently completed a computerized information system as part of the federally-funded USAC project. (Also see Fig. 3.4, p. 63.)

FIG. 3.4

COSTS AND EFFECTIVENESS OF HOUSING REHABILITATION CODE COMPLIANCE

EXPERIMENTAL GROUP NEIGHBORHOODS 1&2 ACCESS TO NCC PROGRAMMING	CONTROL GROUP NEIGHBORHOODS 5&6 NO ACCESS TO NCC PROGRAMMING
-# of people aged 60+ who receive federal loan or grant to comply # of homes of people 60+ found to have violations at outset -# of people aged 60+ who repair homes to comply with code # of homes of people 60+ found to have violations at outset -# of people aged 60+ relocated for failure to repair homes # of homes of people 60+ found to have violations at outset *# of people 60+ who receive federal loan or grant to comply with code # of homes of people 60+ found to have violations at outset	-# of people aged 60+ who receive federal loan or grant to comply # of homes of people 60+ found to have violations at outset -# of people aged 60+ who repair homes to comply with code # of homes of people 60+ found to have violations at outset -# of people aged 60+ relocated for failure to repair homes # of homes of people 60+ found to have violations at outset -# of people 60+ who receive federal loan or grant to comply with code # of homes of people 60+ found to have violations at outset
-to NCC system of this programming (NCC Input logs) -to agencies of staff time input (NCC program logs) (City Code Ser. Bureau) Community Development BCSCC Housing) -to elderly of time & travel to NCC to participate in this programming. (NCC program logs)	-to city of any publicity on availability of federal loans for code compliance -to Berks County Senior Citizen Council housing committee of any publicity given to this via non-NCC methods -to elderly of time & travel costs of going to agency to obtain information about funds

EFFECTIVENESS

COSTS

In addition to a simple comparison of experimental and control areas, additional measures will be used in order to determine with greater precision whether the measured differences result from the program. A regression analysis will be performed in which the measured changes are analyzed with reference to other possibly significant variables, such as differences in the degree of deterioration of housing in the two areas, income differences, etc. This analysis will test the possibility that the area in which most units were brought up to code was the area with least deterioration in the first place, or was the area in which elderly residents had higher incomes, or were somewhat younger, more likely to be of white European ancestry, etc.

3.2 INFORMATION EXPERIMENTS IN SOCIAL SERVICE AGENCIES

The experiments in the delivery information through the NCC system will focus on two distinct service problems. Both sets of experiments are concerned with increasing the access of the elderly to services or benefits. These applications involve helping people already enrolled in a program or already aware of a service agency to take full advantage of the potential benefits. The costs and effectiveness of using the NCC system to facilitate service delivery will be assessed in respect to two service areas:

1. Disseminating information about new options, or changes in rules, and regulations for social service programs.
2. Helping the elderly to fill out and file reports, claims, and other forms.

3.2.1 Dissemination of Program Changes and Innovations: The Banking Option

Local social service agencies agree that program changes and innovations occur with enough regularity and frequency to create problems for both agency staff and elderly recipients. A recent example is the supplementary tax rebate check sent to Social Security recipients that prompted a great deal of confusion and worry among the elderly and resulted in numerous phone calls and in-person visits to the Social Security office. These inquiries were made by recipients who did not understand the notice sent to them, or did not know when their checks would arrive, or had received a check and did not know what it was for.

During the course of the project, it is expected that a number of program changes and innovations will arise in these service agencies. The NCC system will be used, in cooperation with the relevant agencies, to disseminate information on these program innovations. The banking option experiment

described below represents a prototype for this type of application of the NCC system to facilitate the use of innovations in service delivery.

After October, 1975, recipients of OASI can have their monthly checks sent to a bank, rather than to their homes, and deposited in their private accounts. As is customary in introducing such innovations, brief notices describing the option will be included with monthly checks. This announcement will explain the option and how to sign up for it.

Then six months later, programming will be done over the NCC system about the direct banking option: what it is, how to get it, where and how to sign up for it.

Evaluation of Programming

The uptake rate by elderly citizens of Reading to this offer will be tracked between October, 1975 and March, 1976. The costs to the agency of all efforts made during this period to publicize and explain the option will also be tracked. The costs and effectiveness of non-NCC dissemination of information about this program change from October, 1975 to March, 1976 will then be compared with the costs (to the

NCC system and to the agency) and effectiveness (in terms of uptake rate among the treatment group) of disseminating the information via the NCC system. Since the option was tested earlier this year in two cities, data is available from HEW on dissemination costs and effects in terms of uptake in those cities as well. (See Fig. 3.5, p. 68.)

FIG. 3.5

COSTS AND EFFECTIVENESS OF ANNOUNCING AND EXPLAINING DIRECT BANKING OPTION

CONTROL PERIOD	EXPERIMENTAL PERIOD
(Initial Period during which traditional non-NCC, announcements are made 10/75-3/76) <u>EFFECTIVENESS</u> -response rate of target control group -# of persons applying for direct banking option (Soc.Sec.Dist.Office) # of persons receiving OASI &/or SSI (Wave I Survey)	(Second period when NCC programming done after 3/76) -response rate of experimental group with NCC access -# of persons applying for direct banking option (Soc.Sec.Dist.Office) # of persons receiving OASI &/or SSI (Wave I Survey)
<u>COSTS</u> -to agency (Social Security) of mailings, in-person announcements by Director & of other publicity (Soc. Sec. Dist. Office) -to agency of staff time explaining option to recipients at agency office, in-person & over phone (Soc. Sec.Dist. Office) -to agency of staff time input handling lost or delayed benefit checks	-to NCC of programming on direct banking option (NCC input logs) -to agency for staff time inputs on NCC effort (NCC input logs) -to agency of staff time explaining option to recipients (from experimental group with NCC access) at agency (Soc.Sec. Dist. Office) -to agency of staff time input handling lost or delayed benefit checks

3.2.2 Filing Reports, Claims, and Other Forms

For several programs, such as Medicaid, Medicare, and Food Stamps, enrollment in the program does not in itself secure the full range of benefits for the recipient. Further, investments of time and work are required of recipients if they are to obtain all the benefits to which they are legally entitled. When forms have to be filled out, the elderly are at a special disadvantage because limited physical mobility reduces their capacity to visit the agency for help. Moreover, the elderly have a median educational level of fourth grade, and thus may be expected to encounter difficulties in interpreting the forms and printed instructions traditionally distributed to recipients.

Three different kinds of forms have been selected for

initial exposure on the NCC system:

- Medicaid Claim Forms for Board of Public Assistance
- Medicare Claim Forms for Social Security
- Annual Earnings Reports for Social Security

Fig. 3.6, p. 70 shows how the cost effectiveness of each of the form-filing experiments will be determined.

FIG. 3.6

COSTS AND EFFECTIVENESS OF MEDICAID CLAIM FILING

EXPERIMENTAL GROUP WITH ACCESS TO NCCs FOR HELP IN FILING	CONTROL GROUP SURVEY CONTROL GROUP WITH ACCESS ONLY TO AGENCIES FOR HELP IN FILING FORMS
↓ -# of claims filed -# of Medicaid enrollees (Agency Data & Wave I Survey) <u>EFFECTIVENESS</u> -# of enrollees requesting help over phone or in person at NCCs (NCC PROGRAM LOGS) -# of Medicaid Enrollees (Survey I Data)	-# of claims ✓ filed -# of Medicaid Enrollees (Agency Data & Wave I Survey) -# of enrollees requesting help over phone or in person at agency (Agency Data) -# of Medicaid Enrollees (Survey I Data)
<u>COSTS</u> -to NCCs of this application (NCC COST LOGS) -to agencies of staff time input to this programming (NCC LOGS) -to elderly of travel time & costs (only applicable to those who must travel to NCCs), (NCC LOGS) -to agency of staff time input to helping any clients from experimental group file forms at agency (Agency Data)	-to agency of staff time spent helping clients fill out forms (Agency Data) -to elderly of travel time & costs to go to agency for assistance.

3.2.2.1 Medicaid Claim Forms

In addition to the outreach problems on Medicaid discussed earlier, there is an access problem. Medicaid covers hospital and doctors' bills as well as a variety of other medical expenses. Hospitals are generally reimbursed directly by the state; claims are filed by the hospital, not by the Medicaid patient. Doctors in Reading do not generally accept direct vendor payment by Medicaid. Officials at both Social Security and Public Assistance stated neither agency knew of any private doctors who would accept "Medicaid patients." The explanation offered for this was that the doctors a) do not understand the schedule of benefits, fees and covered expenses, b) are fearful that they will either not be paid for the services they render a Medicaid recipient or, c) will be paid less than their normal fee. Consequently, recipients must pay the doctor out of their own pockets and then file claim forms for reimbursement from Medicaid.

The schedule of benefits and covered expenses under the various Medicaid plans is exceedingly complex and is not always well understood by agency personnel let alone by many of the elderly. Those currently enrolled in Medicaid

who do file claims for reimbursement and who need help with them must go to the County Board of Public Assistance. If they are also receiving Medicare, as many of the elderly are, and need help, they must go first for Medicare to Social Security and then to County Board of Public Assistance to file for Medicaid. (Medicaid pays the \$60 Medicare deductible plus added benefits for some medical expenses.) Since the forms as well as the schedule of benefits are so complicated, very few elderly people file claim forms on their own. Since getting help requires going to two different agencies, one of which is assumed to be quite unpopular with the elderly, it is likely that many of those enrolled in Medicaid do not file as frequently as they might, or receive as much reimbursement for medical expenses as they are entitled to. Programming will be done over the NCC system concerning the filing of Medicaid claims.

Program Content

1. Information:

- what are covered expenses
- how to go about filing a claim on your own
- how often to file
- what receipts and bills must be attached
- how to get help with claim forms at NCC, etc.

2. Instruction:

--sessions on filling out forms (-County Board representative acting as instructor).

3. Additional Kinds of Programming:

--teleconference between agencies, the elderly, and local doctors and officials of the county. The Medical Society is to provide information to doctors about Medicaid and encourage them to accept Medicaid patients.

Evaluation of NCC Programming

The average frequency with which treatment and control groups file Medicaid claims will be tracked and the costs of this specific programming over the NCC system will also be tracked. In addition, the costs in terms of staff time to the Bureau of Public Assistance and to individual Medicaid Recipients (in terms of travel time and costs for going to Public Assistance) will be tracked for both treatment and control groups. A comparison can then be made between the cost effectiveness of NCC programming for the experimental group and the cost effectiveness of the agency performing this function in the conventional manner for the control group. Fig. 3.6, p.70 shows how the cost and effectiveness data will be compared.

3.2.2.2 Medicare Claim Forms

There are significant access problems relating to the filing of Medicare claim forms. Unlike Medicaid, the Medicare program is well subscribed and there is apparently little stigma attached to it by recipients or by the general public in Reading. However, the claim forms that must be filed are complex and difficult for most of the elderly to complete on their own. As a result, the vast majority of recipients tend to save up all their medical bills until the beginning of the year (January, February, and March) and then go to the Social Security office for assistance in filing them, causing a bottleneck problem at the agency. Social Security officials identified two factors that contribute to this delay in filing:

1. There is a \$60 deductible on Medicare. Clients believe they have to submit, at one time, bills totalling over \$60 in order to qualify for the deductible and that smaller bills submitted singly will be disregarded. In fact, this is not the case. The claims are cumulative and can be filed at any time.
2. Claim forms are difficult to fill out and most clients require help for each one. To minimize travel costs and time spent they tend to file the whole year's claims in one visit to Social Security.

The extensive delays that occur in the filing of claims increases the period between the time the client pays for a medical service and the time he receives reimbursement. Since most of these clients have small cash reserves, such infrequent filing and reimbursement reduces the total amount they are able to spend for medical care over the year. The clustering of filed claims in the first three months of the year also increases agency staff costs and reduces their efficiency as this is also a time when other reports fall due.

Program Content

Programming will be done over the NCC system:

1. to encourage people to file Medicare claims more frequently;
2. to explain how to file claims and provide on-site help in filing claims.

Evaluation of NCC Programming

The NCC programming on Medicare forms will be evaluated in a manner similar to that described for the evaluation of programming on Medicaid claim forms. The survey control group

(elderly persons without access to NCC programming) will continue to file claims and receive help from the agency or from whatever other source they choose. The treatment group with access to the NCCs will have the option of receiving information and help on claim filing via this NCC programming.

For each group (treatment and control) the average number of claims filed per enrollee will be compared to assess the effectiveness of the NCC effort. In addition, the costs (agency staff time, travel costs, and time for the elderly) of filing claims for the control group will be compared with the costs (incremental cost to NCCs of this programming, agency staff input, and time invested by the elderly) for the treatment group of filing their claims. The measures and sources of data are similar to those listed in Fig. 3.6, p. 70, for the Medicaid claim filing effort.

3.2.2.3 Annual Report of Earnings Forms

Social Security recipients must file yearly statements of their earnings and additional statements if, during the year, their earnings change substantially. Currently, most recipients come to the Social Security office for help in

filling out these forms. The control group will continue to do so and will be compared with the treatment group with access to NCC programming. The costs for the control group include agency staff time helping clients to file reports, and time and travel costs to the clients of coming to the agency for assistance. The costs for the treatment group include incremental cost of this programming to the NCCs, agency time inputs to the NCC effort, and time and travel costs for the elderly.

Evaluation

The costs per report filed by the survey control group (who will continue to file their earnings reports in their usual manner) will be compared with the cost per report filed for the treatment group with access to NCC programming. Unlike the Medicaid and Medicare claim forms, the earnings reports are usually filed only once a year by each individual and the NCC programming effort is not expected to increase the frequency or the number of earnings reports filed. What is expected is a reduction in the unit cost to both the agency (staff time) and the elderly (time and travel to the agency) of filing an earnings report when this can be done on the basis of information provided over the NCC system.

A Note on Agency Visits

Programming which helps clients to fill out claim forms and reports is expected to result in a reduction in the number and frequency of in-person visits to the offices of the two public social service agencies by elderly participants in the NCC system. If they can obtain information on how to fill out the forms and help in filling them out at the NCCs, it is expected that the need to contact agencies, either in person or by telephone, will be reduced.

It is important to note that visiting or telephoning an office may serve valuable social functions for elderly people. It can provide them with social contact and the opportunity to perform purposeful activity. If the overt reason for the contact -- obtaining information or help -- is withdrawn, this may be regarded by many of the elderly as a disbenefit.

The interactive nature of the NCC system and its neighborhood character enhances the likelihood of disseminating the necessary information without diminishing the opportunity for human contact and interaction. The importance of this effect can be assessed by examining the responses of the experimental group with home converters, which has a one-way system with phone-in, to determine if the reduction

in agency visits and phone calls from this group after programming on help with forms is similar to that for the groups participating at the NCCs. It is expected that the experimental group with converters would maintain a higher rate of agency contact after access programming than the experimental group participating at the NCCs.

3.3 ONE-STOP MULTI-SERVICE

Fig. 3.1 (p. 30) indicated that Berks County Senior Citizens Council is involved in a wide array of services, activities, and programs for the elderly. It is a quasi-public organization, and unlike the two public agencies, it is exclusively concerned with the elderly. Moreover, it does not itself provide any direct cash or income support benefits other than its nutrition program.

In October, 1975 the Berks County Senior Citizens Council is planning to open a modern two-story building, the Horizon Center, which will house a multi-service center for the elderly in Reading. The Center will contain all of the recreational and educational activities, crafts classes, social gatherings, and other miscellaneous activities that are presently carried on at the Berks County Senior Citizens Council storefront office on Penn Street. A list of the

--what are the non-quantifiable implications of interactive communication?

The first of these questions is dealt with in greater detail in Section 4.0, entitled Cost Analysis. The separate costs of establishing and operating the NCC at the Horizon Center will be compared with the costs associated with the other NCCs located in public housing projects. In addition, the effectiveness of the NCC at the Horizon Center will be compared with the other two NCCs with regard to:

- initial establishment and training period
- operational period in terms of all previously discussed applications.

The second question, the cost effectiveness and other implications of the NCC system for Berks County Senior Citizens Council, will be examined in this framework:

Data Sources

The Wave I survey contains an extensive series of questions covering the present relationship of elderly people in the experimental and control groups to Berks County Senior Citizens Council. Data from this survey will give a measure of percentage of people in each group who:

- know about Berks County Senior Citizens Council
(as measured indirectly in a series of questions)
- belong to a Golden Age Club
- participate in Nutritional Programs
- visit main headquarters of Berks County Senior
Citizens Council for recreational or educational
activity
- have received help, counselling or referral from
Frank Ruch or staff
- have phoned Berks County Senior Citizens Council
headquarters
- have been visited by Berks County Senior Citizens
Council in their home.

In the initial period of research, data were gathered and a data collection system set up at Berks County Senior Citizens Center for the future tracking of the following:

- data on the activities carried out by staff and
number of hours allocated to each (from a recent
study done for United Way, which is one of their
funding agencies.)
- data on number of elderly persons participating in
each club, class, or activity at Berks County Senior
Citizens Council, their addresses, and method of
referral to Berks County Senior Citizens Council.

This data will continue to be collected throughout the project period.

Once the Horizon Center is opened in the fall a more detailed tracking will be initiated to record:

- people visiting center
- people phoning center
- purpose of visit
- staff time involved with the client
- function performed
- method of referral to Berks County Senior Citizens Council
- participants at each of the congregate feeding centers

Program Content

The format which has been selected is a weekly hour (or longer when necessary) segment of programming devoted to, and organized by, Berks County Senior Citizens Council staff and members. It is anticipated that this programming will fall into the following categories:

Type A Outreach programming on Berks County Senior Citizens' Council, its clubs, classes, and activities, to encourage new people to join, attend, and participate; and the provision of information on how and where

to participate.

Type B Direct interactive programming of Berks County Senior Citizens Council's activities for the elderly:

--social

--recreational

--educational,

where the actual class or meeting of a Berks County Senior Citizens Council group will take place in the NCC and be shared with other NCCs and viewed by those connected through converters.

Type C Services provided by interactive cable system:

--where a service previously performed by Berks County Senior Citizens Council staff in person to individuals or groups at meetings or in their homes is programmed over the cable. An example of this would be help in filling out tax forms. Every year at tax time, Frank Ruch, Director of Berks County Senior Citizens Council, spends approximately ten days visiting several hundred elderly people at public housing sites in the city to help prepare tax forms. Special programming at tax time will be conducted through the NCC system in 1976.

Measurement and Costs and Effectiveness

With regard to NCC programming by Berks County Senior Citizen Council, the costs and effectiveness of using the cable will be compared with previous efforts to perform these activities by Berks County Senior Citizens Council. Comparisons will be made with activities not carried over the NCC system, but conducted at distant sites or in the Horizon Center.

Figs. 3.7 - 3.9, pp.85-87, outline the methods to be used in these evaluations.

FIG. 3.7

COSTS AND EFFECTIVENESS OF TYPE A PROGRAMMING

OUTREACH ON BCSCC ACTIVITIES

EXPERIMENTAL GROUP

CONTROL GROUP

(NCC Access)

(No NCC Access)

EFFECTIVENESS

-# of responses to programming (people who phone into BCSCC or come in, in response to programming (BCSCC data) proportion of persons in experimental group not previously involved with BCSCC (Wave I Survey & BCSCC data)

target pop. of previous outreach efforts by BCSCC

-# of responses to previous outreach effort (BCSCC data) estimated proportion of persons in control group (at time of effort) not involved with BCSCC (BCSCC data)

target pop. of current non-NCC outreach by BCSCC

-# of responses to ongoing outreach efforts (phone & in person BCSCC data) proportion of persons in control group (at time of this effort) not involved with BCSCC (BCSCC data & Wave II)

COSTS

-to NCCs of programming on this BCSCC Activity (NCC input logs)

-to BCSCC of staff time input into preparation & presentation of NCC programming on this (NCC input logs)

-to BCSCC of staff time inputs into this outreach effort & travel costs (BCSCC data)

-to BCSCC of staff time inputs, travel & all other costs related to this outreach effort (BCSCC data)

FIG. 3.8

COSTS AND EFFECTIVENESS OF TYPE B PROGRAMMING

INTERACTIVE PROGRAMMING

ACTIVITY WITH INTERACTIVE PROGRAM	ACTIVITY CARRIED OUT IN USUAL (NON-NCC MANNER)
<u>EFFECTIVENESS</u> -# of elderly participating in interactive presentation of Activity (NCC attendance logs) Total BCSCC Membership at that time (BCSCC data)	-# of elderly participating in Activity (BCSCC data) Total BCSCC Membership at that time (BCSCC data)
-to BCSCC of producing & presenting Activity in NCC's (BCSCC data, NCC input logs)	-to BCSCC of producing & carrying out Activity at New Horizon Center (BCSCC data)
-to NCCs of this application (NCC input logs)	-to elderly of travel costs to attend (BCSCC data)
-to elderly of travel costs to attend (NCC attendance logs)	
<u>COSTS</u>	

FIG. 3.9

COSTS AND EFFECTIVENESS OF TYPE C PROGRAMMING

INTERACTIVE PROGRAMMING OF BCSCC SERVICE FUNCTION

SERVICE WITH
INTERACTIVE PROGRAMMING

EFFECTIVENESS

- # of persons receiving help or assistance from BCSCC via NCC system (NCC attendance logs)

SERVICE WITHOUT
INTERACTIVE PROGRAMMING

BEFORE NCC
SYSTEM

- # of persons serviced by BCSCC (BCSCC data)

AFTER NCC
SYSTEM

- # of persons serviced by BCSCC (BCSCC data)

- to BCSCC staff of time & other inputs into performing this service via NCC system (BCSCC data & NCC input logs)

- to BCSCC staff of time & other inputs into performing this service (BCSCC data)

- to BCSCC staff of time & other inputs into performing this service (BCSCC data)

COSTS

- to NCC's of this programming & ancillary services (NCC input logs)

- to elderly of travel costs & time if necessary to obtain service (BCSCC data)

- to elderly of travel costs & time if necessary to obtain service (BCSCC data)

- to elderly of travel costs if travel is necessary (NCC attendance logs)

3.4 A NOTE ON LAW ENFORCEMENT SERVICES

The delivery of law enforcement services to the elderly in Reading will also be a subject area for NCC programming. Initial background research indicated that the tension which exists between the elderly residents in public housing and the younger families living in public housing or in adjacent areas is perceived to be a significant problem by most public officials and the elderly as well. A major concern of the elderly is crime, particularly minor harassment and a fear for their own personal safety. Many of the elderly have sought the help of the police in dealing with these problems, but have often found them to be unresponsive and uncooperative. The police, by contrast often consider the complaints of the elderly to be of relatively minor significance and moreover not within their jurisdiction.

The NCC system can serve a major role in improving communications between the elderly and police. The NCC system can play a vital function in the development of a dialogue between senior citizens and the police which would allow the elderly to articulate their concerns to the police while also providing police an opportunity to communicate information on law enforcement to the elderly. The municipal election on November 4 will involve changes in government

officials who, of necessity, must be an integral part of planning and implementing this aspect of NCC programming. Thus, full development of programming content and research design will not be possible until after the newly elected officials are in office.

At this time however, information for measuring potential change resulting from NCC programming has been identified. Data concerning role perception and actual satisfaction will be collected in the before and after questionnaires administered to the elderly. In addition, the Reading police have agreed to make records available regarding age of complainants. Thus, it will be possible to monitor, before and after programming, the number and types of requests for police assistance made by the elderly. Organizational and institutional changes can also be measured by the development of new units or committees by the police or by the elderly.

4.0 COST ANALYSIS OF THE NCC SYSTEM

In addition to the extensive cost effectiveness studies of the application of interactive telecommunication to specific services described in Section 3.0, further analysis of the costs of the NCC system is designed from two different perspectives:

- (a) What would it cost to replicate this system in other cities?
- (b) What are the overall savings to be made from investing in an interactive cable system?

The first question will be answered through a detailed examination of the costs of setting up and operating the NCC system and an extrapolation of these costs for an expanded system. The second question will be dealt with in a series comparative cost studies which will seek to explore more fully the costs and benefits of the interactive NCC cable system.

An important aspect of these cost studies is the development of an appropriate methodology for evaluating the costs and benefits.

4.1 REPLICATION COSTS

The purpose of this part of the study will be to report on

the various inputs which were required to set up this three-NCC system with two-way interactive cable facilities, the quantities of each input required and the dollar costs of each. In addition, this study will contain an analysis of the various options for setting up such a system and the factors, such as population density, existing cable facilities, and characteristics of system users, which determine the options taken. While the system must be taken as given (there will not be experiments with different configurations for an interactive system) the set up costs will be recorded in detail. It will therefore be possible to extrapolate how inputs and costs would differ given certain basic changes in the system itself or the community in which it is to be installed. It will also be possible in many cases to estimate the range over which these setup costs remain constant, the points at which they might be expected to rise or fall sharply and the reasons why they might change.

There are two major kinds of costs which it is essential to measure for any cost analysis: (a) hardware costs in the form of equipment and space; and (b) software costs in the form of the time inputs of all involved and their value. The cost of the equipment will be based on current prices, although the quantity and quality of items will be carefully specified to allow for price changes for other contemplating this system.

The value of the time inputs will be based on the wage rates for the skill level necessary. The value of the volunteer time will be estimated on different assumptions about volunteers (such as age, education level, and work opportunities), so that costs can be extrapolated to situations with different kinds of volunteers, or with paid workers.

The measurement of the appropriate time input for the different outputs will be based in large part on the daily activity logs to be kept of the NCC operation. The logs record the time spent on different activities which can be directly related to the relevant output measure. Thus the time spent by a given NCC coordinator, for example, can be tracked by function (training, programming), by modality, by specific program and so forth.

Fig.4.1 outlines the components of these costs and the activities associated with the different phases of the NCC operation.

FIG. 4.1

CHART 1
ACTIVITIES, COMPONENT COSTS & INPUTS

ESTABLISHING SYSTEM
PHYSICAL

ESTABLISHING SYSTEM
PERSONNEL & SOFTWARE

OPERATING SYSTEM
FIXED COSTS

OPERATING SYSTEM
VARIABLES

I. ACTIVITIES

- | | | | |
|---|---|---|------------------------|
| 1. Establishing Physical Plant | 1. Hiring & training Personnel | 1. Ongoing recruitment of Personnel | 1. Planning & research |
| 2. Establishing Cable Equip. & Studio Equip. (Installation & Testing) | 2. Establishing Relationships with agencies | 2. Ongoing training of Personnel (general) | 2. Production |
| | 3. Establishing rel. with community | 3. Ongoing maintenance of equip. | 3. Presentation |
| | 4. Recruiting volunteers | 4. System planning general | 4. Taped reruns |
| | 5. Training Volunteers & crew | 5. Ongoing maintenance of relationship to agencies (not program specific) & community | |
| | 6. Planning & research | 6. Maintenance & operation of 3 NCCs | |

II. INPUTS AND COMPONENT COSTS

- | | | | |
|----------------------------------|-----------------------------|-------------------------------------|--|
| 1. Hardware | Personnel only | 1. Hardware | 1. Hardware |
| Existing Cable Equip. | Technical staff-time input | Maintenance lease fee per month | Any equip. unique to this programming- |
| Pro-rated fee | NCC system staff-time input | | by fee |
| New Equip. -by type & price | NCC Coordinators-time input | 2. Space | 2. Space |
| Leased Equip. -by NCC production | NCC Volunteers-time input | 3. Personnel | Any space unique for this programming- |
| | | Technical crew-time input | by fee |
| 2. Space | | NCC staff (Coordinators)-time input | 3. Personnel |
| Rented space-by fee | | NCC volunteers-time input | by time |
| 3. Personnel | | Cable Co. Personnel-by fee | input |
| Technical staff-time input | | | NCC Volunteer staff " |
| NCC system staff-time input | | | NCC Coordinators " |
| Cable Co. Personnel-by charge | | | NCC System staff " |
| | | | Technical crew " |
| | | | Cable Co. Personnel-by fee |
| | | | Other tech. " necessary |
| | | | for this programming- |

The system which will be set up in Reading is small. It has only three neighborhood centers; it provides only two hours of programming a day; it is focused only on the elderly and the agencies which serve them. Clearly a full operative system would provide, not only additional air time, but also the possibility of a substantial reduction in the average costs of the system as the considerable fixed costs are shared by many more agencies and citizens. Therefore in order to gain a broader perspective on the actual costs of replicating the NCC system at fuller capacity, average costs will be compared by a variety of output measures. For purposes of this comparison, replication costs are broken down into the following major categories:

- (1) Systems costs.
- (2) Presentation costs.
- (3) Training costs.

Systems Costs:

Systems costs will be estimated to include:

- (1) the fixed costs which would be incurred regardless of the actual content of the programming to be done, for a three-NCC system serving X people; (the activities and costs involved are listed in the first columns of Fig. 4.1, P. 93).

- (2) the fixed operating costs which are necessary to keep the system functioning regardless of the actual content of the programming, but not regardless of the size of the system, that is the number of centers, converters, hours of programming, or number of participants (the third column of Fig.4.1);
- (3) the programming components which do depend upon the actual content of particular programs or program sequences (the fourth column of Fig.4.1).

Presentation Costs:

Presentation costs will be estimated to include:

- (1) a prorated component of the systems costs;
- (2) the appropriate additional costs by type as listed.

Training Costs:

The training costs will also include:

- (1) a prorated component of the necessary hardware and systems costs;
- (2) the time inputs of all participants.

Fig.4.2 lists the major categories and sub-categories of average costs as a guide to others in estimating the costs of extending the interactive NCC system on a wider scale.

Fig.4.2
AVERAGE COST ESTIMATES (BY MAJOR CATEGORY)

1. Systems Costs:

- costs by total hours of programming per day, per month, per annum
- costs by numbers of NCCs
- costs by numbers of converters
- costs by number of participating agencies and personnel.

2. Presentation Costs:

- costs by modality (teleconference, pretapes, live sessions, reruns)
- costs by program content (income needs, nutrition, recreation)
- costs by programming effort (drive to increase food stamp outreach)
- costs by agency effort (time input from Social Security Administration)
- costs by number and type of participants
- costs by number of NCCs involved, number of converters.

3. Training Costs:

- costs of training elderly by number and type of center
- costs of training government personnel by number, by status and by type of programming content
- costs of training professionals, how soon and to what extent they can be phased out of what activities.

An important objective of this part of the cost study is to estimate whether and at what point economies of scale can be gained from expanding the system. In order to test for declining average costs it is necessary to distinguish between the fixed (or startup) costs and variable (or operating) costs, but the appropriate allocations of costs will depend upon the particular output measure. It is not possible to ascertain a priori which will be the fixed and which the variable costs of actually operating an NCC system. One of the purposes of the experiment is to obtain the data necessary to allocate these costs appropriately. Once the data on the vector of inputs and the increment to total costs incurred by each application has been produced, and the relevant share of fixed costs to each has been assigned, it will be possible to express total costs as a function of the characteristics of the application.

Although programs may be categorized in this way it will not be possible to isolate those program characteristics which will have any significant impact on costs until the input data are available and analyzed. All inputs will be examined in the following contexts:

- by sponsor (Public Assistance, Social Security, etc.)
- by goal (outreach, entertainment, etc.)
- by content (lecture, demonstration, discussion, etc.)
- by modality (teleconferences, session, pre-tapes, etc.)

In addition to the costs of the various inputs required to produce one hour of such programming this research will also examine a series of other variables to which costs of programming of all types, or of specific types, may be sensitive;

- (1) age of system
(total number of hours of programming of all types done previously) ;
- (2) total hours of programming of this type done previously;
- (3) total hours per day of cable session time currently in production;
- (4) number of NCCs involved in production;
- (5) NCC at which program is presented;
- (6) number of participants attending presentation.

1 and 2 represent the impact of a learning curve for factor inputs (the elderly and NCC staff). 3,4, and 6 represent a possible scale factor, and 5 represents the possibility of different production functions at different NCCs.

At the present time the system is planned for approximately two hours per day of cable-time operation. Obviously, once such a system is established it is not optimal to restrict it to so few hours of operation per day, nor to so few users. Because the fixed costs of establishing the system physically and of training users to operate the system will greatly

outweigh the marginal cost of producing programming, the more users the system has, the more operative hours per day, the smaller the share of the fixed costs to be assigned to each. These scale economies cannot be expected to pertain over all ranges, of course. There are limits to the productive capacities of system personnel, space, and volunteers. Clearly, fixed operating costs, such as ongoing recruitment of volunteers and rent-space requirements would begin to rise at some point. It is planned to experiment with other users of the system; the local community college, for example, has expressed a strong interest in participating.

Besides the economies of scale expected from the hours of programming, numbers of users and numbers of centers, it is expected that there are also considerable scale economies in presentation and training. If research, training and production are efficient for one application they may prove to have a high degree of transferability to other applications. For this reason sequence of programming is particularly important. If the programming for outreach on Medicaid follows the programming for outreach on Food Stamps and if the lessons learned from the former greatly facilitate program production on the latter, total costs should then be spread between the two applications. In other words, the economies will arise from the decreasing inputs of time by staff and volunteers as experience and facility are gained.

Finally, a crucial part of the evaluation of the costs of replicating this system will be the qualitative analysis of how the NCC system evolves and the experience gained from setting up and experimenting with interactive cable in the delivery of services. Section 3.0 describes how this part of the research will be carried out in detail.

4.2 TOWARDS COST/BENEFIT: THE METHODOLOGICAL EXPERIMENT

The purpose of any cost/benefit study is to compare the streams of costs and benefits derived from alternative methods of producing the same or different outputs. The initial proposal presented an extensive discussion of the factors which constrain a comprehensive evaluation of the costs and benefits of the entire NCC system. As part of the effort to develop the appropriate methodology for evaluating the overall savings from such interactive systems, this study will focus on two of the important conceptual issues: the output function of the system and the evaluation of the stream of benefits.

The first issue concerns the definition and measurement of outputs which the system produced directly (information, interaction, etc.), and other service outputs to which the system contributes indirectly as just one input in the production of the relevant service. This issue also concerns the

appropriate function for defining how the outputs were produced compared to other ways of doing the same thing and for dealing with the problem of the system as a complement or substitute for other inputs and outputs.

The evaluation of the stream of benefits is crucial and, because it raises many more conceptual problems than the somewhat simpler problem of measuring and projecting costs, requires more analytic work before appropriate measures can be defined. For instance, the output stream of the system obviously has to be defined properly before methods for estimating its dollar value can be devised.

The technique for developing the methodology will be to undertake a series of exploratory empirical studies. It is hoped that by starting with practical empirical problems, useful data will be generated, even if the conceptual issues are not resolved.

Initially, three directions for empirical work are proposed:

- Costs and benefits in outreach services
- Costs and benefits in a multi-service setting
- Direct cost comparisons

The first two were chosen as contrasting examples of the problems to be encountered in evaluating benefits. In the

first case, the NCC System is one input in the production of outreach services for Medicaid and Food Stamps; in the second, BCSCC Services and activities will be programmed directly over the NCC System. In both cases the extent to which the NCC System substitutes for or complements existing service will be an important issue, which will have to be evaluated qualitatively to decide the appropriate way to account for costs and benefits. For Medicaid and Food Stamps, there are currently minimal outreach services for direct comparison. By contrast, the BCSCC will continue to provide services and activities without the interactive NCC cable system, which present a unique opportunity to test for the additional benefits of the interactive system. The third direction is to explore the possibilities for empirical work in making direct comparisons between the costs of providing programming over the interactive system and other alternatives.

4.2.1. Costs and Benefits on Outreach Services

This study will build upon the cost effectiveness studies of the interactive system on the outreach of the Medicaid and Food Stamps programs in Reading described in Section 3.1. The costs of producing the programming for the outreach efforts will be related to the stream of benefits which were produced, and estimates of the value of the benefits gained from the outreach efforts will be made. Data from other communities

where similar outreach services have been provided by traditional methods will provide the basis for comparison with the NCC System.

The costs of producing the programming have already been described. The output measures will be obtained from (a) the before and after survey of the elderly and (b) agency data for control and treatment populations. Estimates (and a range of values) will be made of the increase in the relevant output measure which can be attributed to the interactive system. Thus, for example, the proportion of the eligible receiving food stamps and enrolled in Medicaid will be measured for control and treatment groups. From these measures an estimate can be made of the proportion of the increase in the eligibles enrolled attributable to the NCC System. There are a number of such output measures listed for each program in the previous description. These outputs will then be valued, and added together for each program, so that the overall benefit of the outreach effort can be measured. Other indirect benefits, such as improved health care and nutrition which may or may not be quantifiable, will be considered.

4.2.2 Costs and Benefits in a Multi-Service Setting

Also building on the cost-effectiveness experiments designed to evaluate the introduction of the NCC system to Horizon

Center, an overall assessment of the total cost and benefits to the Berks County Senior Citizens Council and the elderly of Reading will be made. The benefits to Berks County Senior Citizens Council will be estimated from the savings made in using the NCC system over the regular costs of the Berks County Senior Citizens Council service or activity.

From the control data described under the three programming types of activities in Section 3.0, a cost per response to outreach, and a cost per person attending a Berks County Senior Citizens Council activity will be estimated for the non-interactive activities. These estimates will provide a price for valuing the benefits from the increases in the number of persons reporting on the Wave II survey that they joined Berks County Senior Citizens Council, or that they attended a club or activity or received a service from Berks County Senior Citizens Council as a result of information gained over the NCC system. The purpose is to capture the aggregate, long-term effect of the impact of the NCC system on Berks County Senior Citizens Council in addition to the effect of specific NCC programming on given services or activities. Other quantifiable benefits to the elderly will include estimates of the savings in time spent in Berks County Senior Citizens Council service or activity, and the increased number of participants and service delivered.

The unquantifiable benefits will be the value of the activity or service.

4.2.3 Direct Cost Comparisons

The possibilities for making direct comparisons to the costs of providing interactive programming will be explored in two contexts which involve comparison with one-way programming. Each is briefly described below.

(a) One-way viewing of interactive programming.

Comparative benefits from one-way viewing for those connected by converters, and two-way participation, can be ascertained from comparison of the differential impact of a variety of measures in the Wave I and Wave II surveys.

(b) One-way programming.

The public access channel in Reading has produced, and will continue to produce, programs of interest to the elderly. The costs of producing these programs over one-way cable can be compared to the two-way costs. Data drawn from studies of public and private programming for the elderly in other communities, such as the Elderview Project in New England, will provide further basis for comparison with the NCC System.

5.0 IMPACT OF THE NCC SYSTEM ON SENIOR CITIZENS' BEHAVIOR

5.1 INTRODUCTION

The interactive NCC system will generate a wide range of social and political effects on senior citizens and community organizations in Reading, Pennsylvania. This section describes the nature of these effects and methodological tools which will be used to examine them.

The specific hypotheses and measurements used to examine the impact of the NCC system on the behavior of senior citizens are set forth. Three dimensions are identified:

- (a) the effect of the system on the utilization of services;
- (b) the effect of the system on the attitudes and beliefs of the elderly both about themselves and about the agencies and organizations with whom they might potentially interact; and
- (c) the effect of the system on the capacity of the elderly to participate over a broad area in the political community of Reading.

Eight general hypotheses are stated and specified in light of data sources. Primary reliance in the "before" stage is on the interview schedule which is described in detail.

Various methodologies including field work in public places and at NCC sites will be utilized during the experimental and "after" stages to evaluate the process through which changes in senior citizen behavior have taken place.

5.1.1 Eight General Hypotheses

Research questions concerning the impact of the NCC system as such on the behavior of senior citizens in Reading can be conveniently grouped under the eight general hypotheses.

The first refers to the utilization of services. Hypotheses 2 - 6 can be regarded as so many dimensions of the competence of senior citizens as consumers of services. Hypotheses 7 - 8 refer to the relationship between elderly citizens and government in Reading.

Operation of the NCC system will --

1. Bring about greater utilization of the services and benefits which will be the subject of NCC programming;
2. Diminish specifiable beliefs and attitudes which currently act as barriers to the utilization of services;
3. Raise the skill and know-how of senior citizens as consumers in interaction with service bureaucracies;

4. Raise and alter the access of senior citizens to channels of service-related information flow and to alternate sources of help;
5. Raise the extent to which senior citizens have recourse to the community of their peers for service-related information and help;
6. Alter the image senior citizens have of senior citizens as a group;
7. Raise the activity level of senior citizens and participation in the general community of Reading, especially its political processes;
8. Alter the senior citizens' perception of the government of Reading.

5.1.2 Rationale for the Eight Hypotheses

Much of the content of the projected programming over the NCC system will be addressed to improvements in the outreach of specific services with the expectation that these services will receive greater utilization (Hypothesis 1), and that many of the specific lacunae of knowledge, misperceptions, and attitudes which have stood in the way of such utilization will be dispelled (Hypothesis 2).

In the course of disseminating knowledge and views about the specific services covered, the program will also contribute to citizens' general familiarity with programs, agencies, and the modes of coping with them. This expectation is part of the warrant for expecting increases in senior citizens' skill and know-how in dealing with agencies (Hypothesis 3), and in their awareness of and access to channels of information and help (Hypothesis 4).

Another part of the warrant for these two hypotheses, as well as for the remaining ones (Hypotheses 5 - 8) resides in the expectation that the operation of the new communication system, by its very existence, will bring with it:

- acquisition and practice of communication skills by the elderly through their activities at the neighborhood communication centers;
- acquisition and practice of organizing skills by the elderly through their participation in the new communication system;
- greater visibility of the elderly to each other and to other citizens who are exposed to the new program directly or indirectly;
- publicity given the new programs in other media;
- interaction of specific groups with the elderly

over the cable. These may include: a high school class in an oral history program, students and staff at the Reading Vocational Technical School in the course of the housing rehabilitation program (cf. Section 3.1.3); physicians and medical society officers in the course of the medicaid participation program (cf. Section 3.2.2.1).

--appearance of the elderly to themselves and others as a resource instead of merely as a group in need of a service.

5.1.3 Note on Data Sources

The bulk of the data for the evaluation of these eight hypotheses will be generated by the interview survey of elderly citizens in selected public and private residential sites, referred to in Section 7.0.* The correspondence between interview questions and the dependent variables implied by each of the eight general hypotheses is pointed out in the sub-sections devoted to each hypothesis in Section 5.2.

*For a detailed discussion of the quasi-experimental design, including the designation of treatment and control populations, see Section 7.0, Control Design and Sampling Frame.

Supplementary data for the analysis of senior citizens' behavior will be generated by observations at public sites of interaction and by the monitoring of participation and activity at the NCC sites.

5.1.4 Analytic Design

5.1.4.1 Directives from the Control Design

The essential elements of the data analysis plan are contained in Section 7.0, Control Design and Sampling Frame. Data on the utilization of services, on the competence of senior citizens as consumers of services, and on the remaining dependent variables implicated in the eight hypotheses (5.1.1) will be gathered in the fall of 1975 before the beginning of NCC operations, and again one year later. Increases over the year in each of the dependent variables will then be compared between treatment (NCC access) and control (no NCC access) groups in three kinds of residential conditions, with additional comparisons to be made between groups receiving variant treatments (Treatments A, A', and B, as described in Section 7.1). Differential increases in treatment groups in excess of those in control groups will be taken as presumptive evidence for effectiveness of the NCC system on the dependent variable being examined.

The role of the three residential conditions lies chiefly in comparing the more concentrated elderly population, having greatest NCC access, with the more dispersed one, having least NCC access.

With these essential elements of the data analysis dictated by the control design, the present section sets forth the role of certain additional independent and conditional variables which are presently foreseen to apply to the examination of all or most of the dependent variables.¹

5.1.4.2 Measurement and Degrees of Participation

Exposure to and participation in NCC activities will be ascertained in two ways. Principal reliance will be on the monitoring of attendance, participation, and activity of NCC sites, which is described in Section 6.0. Additional information about exposure and participation, especially to those equipped with home converters (cf. 7.1.4), will be gathered during the "after" interviews.

"Participation" in this context is to be broadly understood, but degrees and modalities of it will be taken into account as far as possible. For those with home converters, participation may range from watching -- with varying frequency

¹For the logic of independent, conditional predictor variables involuntary factors see Rosenberg, Morris "Survey Design and Analysis".

and regularity -- to watching and telephoning, or providing other forms of feedback, again with varying frequency and regularity. For others, "participation" will begin with physical presence in the room which will constitute each NCC, and will range through passive observations of screen images and "live" events through varying forms of interaction and participation in the creation of live events, to participation in long-range planning and creative activities. Frequency and regularity can provide specification at any of these levels.

Determinants of Participation - An attempt will be made to identify the major correlates of NCC participation among background (age, sex, education, occupation, etc.) and other suitable predictor variables. In addition to the interest of these determinants in their own right, an added reason is that among them will be the chief potential invalidating factors which need to be statistically controlled.

5.1.4.3 Standard Conditional Variables

Certain classes of variables -- such as, educational level -- will be used routinely in connection with most of the correlations to be examined so that, for example, the

association between NCC access and increases in information levels about services will be determined separately for those of high and low educational levels. These standard conditional variables fall into three classes:

- (i) Eligibility for Benefits and Services - The eligibility of each respondent to the interview survey for certain of the benefits whose utilization is to be investigated will be estimated on the basis of interview-generated data concerning their age, marital status, past and present employment, income, assets, and medical expenses.

The analysis of the utilization of each service, and of barriers to the utilization of each service (see Sections 3.2.1.1 and 3.2.1.2) will then largely be confined to those believed to be eligible for the respective service. However, those estimated to be ineligible will serve specific aspects of the analysis, too -- e.g., to assess the correspondence between respondents' own beliefs as to their eligibility for services which they are not receiving with the eligibility estimation made on the basis of the supplied data, as just described.

- (ii) Educational Background - Own education, spouse's education, English language capacity, and occupational class of self and spouse will be introduced as

conditional variables, primarily in the expectation that they help determine the respondent's cognitive capacities and hence his responsiveness to information campaigns.

(iii) Coping Experience and Familiarity with Local Networks -

Certain other conditional variables are to be introduced because they are believed to indicate the person's length of acquaintance with local networks, his experience in coping with service needs in his current status (i.e., living by himself or with others), and past experience in "coping" with large scale bureaucracies. These variables include length of time in current household status (i.e. alone, own household, or in household of others); length of time in present neighborhood, in Reading, and in the United States; past occupational experience; and past activity in voluntary organizations.

5.1.4.4 Special Conditional Variables

In addition to the standard conditional variables mentioned in the preceding section, certain other factors will be used as conditional variables. The following can be mentioned

at this time; no doubt others will suggest themselves in the course of analysis.

- (i) Availability of Relatives - Those who have access to family support differ from others not only in their lesser need for many of the services provided by agencies, but also in their lesser need for information about services and even in freedom from attitudinal barriers against seeking services, since family members often provide sufficient linkage to overcome such barriers. For this reason certain parts of the analysis will be performed separately for persons with different degrees of family availability. For this purpose, the distance of the nearest relatives (in same household, elsewhere in Reading, within easy visiting distance, or further away) will be ascertained, as will be the extent to which the nearest relative maintains a complete household (i.e. one with either spouse or children or both). For the protection of the sensitivities of the persons to be interviewed, it has been decided not to probe into the extent of their actual contact with their relatives.

- (ii) Participation in Face-to-Face Networks in Housing Projects - In order to assess pass-on diffusion of NCC-generated information and attitudes to those who do

not participate directly (cf. 5.1.4.3), it is desirable to differentiate respondents according to their degree of participation in face-to-face networks, especially in the public housing projects. This will be done by means of data which are mentioned in more detail below, in Section 5.2.5 (Hypothesis 5).

5.2 SPECIFICATION AND OPERATIONALIZATION OF THE EIGHT HYPOTHESES

Each of the eight general hypotheses enumerated in 5.1.1 will now be taken up in its turn. The discussion of each will include:

- specification of the hypothesis in the form of sub-hypotheses or specific dependent variables;
- operationalization of the dependent variables, keyed to the interview questions which are to generate the necessary data; (The full text of the entire interview schedule for the "before" survey is reproduced as a separate supplement to the report.)
- any special analysis plans that are foreseen at this time, beyond those described in 5.1.4.

5.2.1 Hypothesis 1: The Operation of the NCC System Will
Bring About Greater Utilization of Those Services
and Benefits Which Will be The Subject of NCC
Programming

This first hypothesis overlaps with the research questions discussed in Section 3.1. It is included in the present discussion insofar as it is to be made the subject of the interview survey analysis. This analysis will provide the jumping-off point and the model for the survey analysis of subsequent research questions.

Specification and Operationalization - The services and benefits whose utilization will be assessed under this rubric are listed in the chart below. In all instances, the proportion of samples utilizing the given service will be ascertained. Wherever additional measures of the degree of utilization by an individual are to be ascertained, they are listed below. A final column refers the reader to the Interview Question which is to elicit the necessary data during the "before" and "after" interview. The reader should note that, in addition to these interview-generated data, agency-generated data on the utilization of services will also be collected (See Section 3.1). (For chart, see Fig. 5.1, p. 119.)

FIG. 5.1

<u>Benefit or Service</u>	<u>Intensity Measure Other Than Use/ Non-Use</u>	<u>Interview Question Numbers</u>
<u>Group A</u>		
Food Stamps	buying all the food to which one is en- titled	107, 120
Medicaid	number of claims filed, past 12 months	63e, 80-82
<u>Group B</u>		
Medicare	number of claims filed, past 12 months	63d, 66-68
SSI	none	63c
General Assistance	none	63b
<u>Group C</u>		
Congregate Meals	how often per week; how many months out of past 12	129-135
Meals on Wheels	how often per week; how many months out of past 12	141-145
Escort Service to Congregate Meals	none	137-139
Visiting Nurse Service	none	147-150
Homemaker Service	none	152-155
<u>Group D</u>		
Participation in Golden Age Clubs	frequency; range of activities	212-217
Attendance at Berks County Senior Citizens Council Headquarters	frequency; range of activities	162-164

5.2.2 Hypothesis 2: The Operation of the NCC System Will
Diminish Specifiable Beliefs and Attitudes Which
Currently Act as Barriers to the Utilization of
Services

Specification - Three principal barriers to the utilization of services are postulated:

(a) ignorance, which may include:

- failure to be aware of the availability of a given service;
- misconceptions about eligibility;
- ignorance of how to apply for the service;
- specific misconceptions (superstitions) about the use of the service;

(b) fear of perceived difficulties in joining a program or securing its benefits;

(c) perceived stigma of accepting benefits (shame/pride).

Operationalization - With regard to Food Stamps and Medicaid, the full array of these barriers will be pursued in considerable intensity, particularly among respondents who are not receiving either of these benefits, by questions of the form, "Why have you not applied for this program?", with suitable follow-up questions (108-113 and 94-98). Both those who do and those who do not receive these two benefits

will be asked for their rating of the difficulties in joining each of these programs and in securing benefits under them; the rating questions are followed, where suitable, by questions of the form "What are the problems?" These questions (114-115b and 119-125; 88 and 99-1) are designed to yield indicators of perceived difficulties in joining or using these programs and, in the case of Food Stamps, indicators of perceived stigma as well. Similar questions (75-76) concern Medicare.

With regard to the five services designated "Group C", the only barriers under Hypothesis 2 that will be specifically investigated are those of low awareness of the service. All respondents will be given a loose description of the service, and will be asked whether such a service is available in Reading, what it is called, or where it is offered (Questions 129-130; 137-138; 141-143; 147-148; 152-153).

With regard to Medicare and Medicaid, additional questions concerning cognitive barriers will be asked of those respondents who are on these programs. Two concern their awareness of the different offices which handle these two medical benefit programs (Questions 70, 84). Two others are addressed to "superstitions" regarding the operation of these services, e.g., that applications for reimburse-

ments must be made in person, and that saving up medical bills until a large number can be submitted at once reduces the deductible (Questions 71, 77-79).

Analysis - Two separate research questions are to be asked with regard to this array of barriers:

- (1) To what extent is the NCC system able to diminish each barrier -- i.e., to impart information, to dispel the anticipation of difficulties, to reduce the perception of stigma, etc.? This question will be pursued by a straightforward comparison of the before-to-after changes in these dependent variables between treatment and control group.

An affirmative answer does not necessarily mean that the persons for whom barriers have been reduced end up utilizing the given service (or utilizing it more); other obstacles may, after all, stand in the way.

- (2) To what extent is the NCC system able to overcome each barrier? Here the question is precisely whether the persons concerned end up utilizing a service which had not reached them before the installation of the NCC system. Persons who are eligible for Food Stamps

or Medicaid, but do not utilize these services at the beginning of the study period, will be classified as to the extent to which this under-utilization appears to be due to each of the barriers: ignorance, fear, or stigma. The extent to which this utilization in each of these three groups will have been differentially raised among the treatment but not the control subjects in them will be taken as a measure of the system's relative ability to overcome one or another of these barriers. "Overcoming" here does not necessarily mean that the given barrier has been erased; it may simply have been sufficiently reduced, and/or the perceived attractions of the given benefit may have been raised sufficiently to overcome the given barrier. Multivariate analysis will be able to shed some light on the extent to which each of these processes is at work.

It should furthermore be noted that there two distinct ways in which these barriers might be lowered. So far the focus has been on one of these ways: affecting the elderly population directly (imparting information to them, reducing the perception of stigma, etc.). A second way would, instead, directly affect the service agencies -- e.g., inducing them to make it possible to acquire benefits with less advance knowledge, or to operate in such ways as will reduce "difficulties".

The proposed research design, as discussed, is more suitable for ascertaining improvements of the first kind. However, supporting evidence of improvements of the second kind would be furnished to the extent that the barriers are reduced for treatment and control groups alike -- or overcome for treatment and control groups alike. However, this evidence could probably not differentiate effects of the NCC system from the effects of other events occurring concurrently.

5.2.3 Hypothesis 3: The Operation of the NCC System Will
Raise the Skill and Know-How of Senior Citizens as
Consumers in Interaction With Service Bureaucracies

Specification and Operationalization - The following dimensions of consumer skill and know-how will be considered:

(1) Levels of information about specific services. This is simply the inverse of the "ignorance" dimension discussed in the preceding section.

(2) Familiarity with agencies and offices. This will be operationalized as:

--physical acquaintance with each of three agency offices

(See Questions 161a-178);

--awareness of certain facts about two of these same offices (161a-170);

--naming agencies as channels of information retrieval and help in answer to certain open-ended questions of the order "Where would you turn for such information?" or "Where would you turn for such help?" (The relevant questions are enumerated in Section 5.2.4 below.)

- (3) Less effort required, or perceived to be required, to secure rights from agencies. This will be operationalized as:

--lower frequency of visits to an agency, when there is no change in the program one is on (165-166; 169; 171-172, 175);

--fewer self-reports of having to "call agencies about forms" received in the mail (181-182);

--more positive reports of older persons getting enough attention, and getting what they are entitled to (183-188) .

- (4) Less dependence on an "interface relative", and a more active role played in interaction with the "interface relative", in dealing with the agencies (179-180a).

Analysis - Once again, differential improvements among treatment groups will be taken to be signs of the impact of the NCC system on its elderly participants; equal improvements in treatment and control groups would constitute suggestive evidence of improvements in agency operations -- with the same limitations as mentioned at the end of Section 3.0.

5.2.4 Hypothesis 4: Operation of the NCC System Will Raise
and Alter the Access of Senior Citizens to Channels
of Service-Related Information Flow and of Help

By "service-related information" is meant information that either will lead persons to utilize services offered by agencies more effectively, or enable persons to dispense with services offered by agencies.

Specification - Operation of the NCC system will bring it about that:

- (1) -- senior citizens more often have a channel of information retrieval at their disposal or in their field of awareness (180a, 234-236);
- (2) -- senior citizens more often have a source of help at their disposal or in their field of awareness;
- (3) -- relevant information more reliably reaches senior citizens;
- (4) -- agencies (as contrasted with lay channels) will play a proportionately greater role in senior citizens':
 - a --referrals to new services (117-118, 91-92, 136, 140, 146, 151, 156, 160);
 - b --information retrieval (180a, 234-236);
 - c --current awareness;
 - d --seeking help;

- (5) -- the community of senior citizens will play a proportionately greater role in senior citizens':
- a --referrals to new services (117-118, 91-92, 136, 140, 146, 151, 156, 160);
 - b --information retrieval (180a, 234-236);
 - c --current awareness;
 - d --seeking help;
- (6) -- NCC-generated messages will play a significant role in senior citizens':
- a --referrals to new services;
 - b --information retrieval (180a, 234-236);
 - c --current awareness.

Operationalization - Most of the interview questions which are to elicit data for the testing of the above sub-hypotheses are open-ended questions of the form "Where do you turn for information like that?" and "How did this information come to your attention?"

The replies to each such question can be classified by the extent to which they give prominence to each of the following channels of information or help:

mass media;

senior citizens and their clubs;

or (on the "after" survey), the NCC system.

In case of questions concerning information retrieval and help-seeking ("Where do you turn?"), replies will also indicate whether the respondent is aware of any specific channel at all. Replies to all questions of this form can therefore be indexed in a number of ways, so as to furnish indicators for the testing of more than one of the sub-hypotheses listed above.

Before-and-after comparisons of sources of referral to specific services will, generally, not compare the same persons with themselves at the two time periods, since one and the same person will not, of course, have been newly referred to a given service both this year and next. Instead, there will be comparisons, for any one service, of the sources which referred those persons who newly obtained that service before the fall of 1975, with those which referred persons who entered the rolls between the falls of 1975 and 1976.

Anticipated increases in the role which other senior citizens play as resources for information and help are hypothesized to be particularly (and perhaps exclusively) prevalent in concentrated-residence sites.

5.2.5 Hypothesis 5: Increased Interaction Among The Elderly

Operation of the NCC system will raise interaction among the elderly, and the extent to which they have recourse to the community of their peers for service-related information and help.

Specification and Operationalization - This hypothesis comprises a number of expectations, some of which have already been discussed as components of other hypotheses.

The operation of the NCC system, it is hypothesized, will lead to:

- (1) more socializing among elderly persons, especially in public-housing projects where they are concentrated (Q. 196 and 204);
- (2) more participation of elderly persons in senior citizens' clubs, in the social and recreational activities at the headquarters (old and new) of the Berks County Senior Citizens' Council. This has already been discussed as Group D under Hypothesis 1.
- (3) Greater recourse of elderly persons to other elderly persons, and to the senior citizens' clubs and similar organizations, as channels of help and information. This has already been discussed under Hypothesis 4, Sub-Hypothesis 5.

- (4) More frequent furnishing of help to other elderly persons by the elderly persons to be interviewed. Question 189 will furnish data on this point.

5.2.6 Hypothesis 6: Operation of the NCC System Will
Alter the Image Senior Citizens Have of Senior
Citizens as a Group

Specification and Operationalization - Four aspects of senior citizens' image of themselves as a group are to be investigated:

- (1) Perceived power in relationship to government and service agencies (Q. 226).
- (2) Helpfulness. This will be tapped by Questions 189-192, asking for indications of older people's perceived helpfulness to other people and to one another. (Question 189 was also mentioned in connection with Hypothesis 5, Sub-Hypothesis 4.)
- (3) "Senior-Power" Interests (Q. 226-233).
- (4) Attention to "Aging" Programs on the Mass Media (253-255).

5.2.7 Hypothesis 7: Operation of the NCC System Will Raise
the Level of Senior Citizens' Activity and Parti-
cipation in The General Community of Reading, In
Particular in Its Political Processes.

Specification and Operationalization -- Levels of participa-
tion in the following activities are to be examined:

- (1) Range and frequency of (out-of-project or out-of-house) activities (196, 203-211).
- (2) Socializing with other senior citizens and participation in their clubs and organizations. This was already discussed in Section 5.2.5.
- (3) Helpfulness to others, already discussed in 5.2.5.
- (4) Participation in voluntary organizations (Q. 218-225).
- (5) Undertaking of new physical-exercise or educational programs (Q. 234-236a). Such programs are expected to receive attention on the NCC System.
- (6) Participation in the political process, as indicated by replies to Q. 40-46, concerning voting behavior, participation in political campaign activities, and efforts to induce actions on the part of the city government.

5.2.8 Hypothesis 8: Operation of the NCC System Will
Alter Senior Citizens' Perception of the Govern-
ment of Reading

Specification and Operationalization -- The following dimensions of perception of the local government are to be considered:

- (1) Number, nature, and severity of perceived problems (Q. 32).
- (2) Citizens' opportunities to obtain information about local governmental activities, and to furnish an input into such activities. (Q. 33-39).
- (3) Ratings of specific municipal services, and what should be done about them. Services have been selected in such a way that in all likelihood some will, and some will not, become the subject of programming on the NCC system over the year: bus transportation, public libraries, parks and recreation facilities, safety in the streets, police performance when called for help by citizens (Q. 47-62), and housing code enforcement and facilitation of housing maintenance (Q. 24b-d).

5.3 TECHNICAL INFORMATION ON SOURCES OF DATA

5.3.1 Interviews

The interviews, to be conducted according to the control design described in Section 7.0, will be carried out by sub-contract with National Analysts, Inc., of Philadelphia.

Preparation of the interviewing instrument, designing and drawing of the sample, and all processing subsequent to the editing of interview protocols will be in the hands of the project staff.

The interviewing instrument has been drawn up by the project staff, and has been successively and thoroughly revised and refined in the course of extensive pilot work, involving some 59 pilot interviews with senior citizens in Reading. The pilot interviews have been carried out by the project's own research staff.

Interviews are gauged to take just under one hour in length, on the average. They are made up of a combination of structured, semi-structured, and open-ended questions. The full text of the interview schedule (subject to minor revisions) for the "before" survey constitutes a bound supplement to the report.

The "after" survey interviews will contain many of the same questions which constitute data for the dependent variables (see passages on "operationalization" in Section 5.2. Many other variables will be omitted on the second wave. Questions concerning exposure to and participation in the NCC system will be added, as will be questions concerning exposure and sensitivity to important intervening events of which the researchers may become aware in the course of the year (cf. discussion in Section 7.3.1).

5.3.2 Observations of Interaction in Public Places

Observations of interactions at publicly accessible sites of interaction between senior citizens and others (retail stores, restaurants, public conveniences, clubs), are to be held before installation of the new communication system, and again one year later. The selection of about 50 such sites is envisaged, with observation times averaging about one hour "before" and one hour "after."

5.3.3 Monitoring of Participation and Activity at NCC Sites

The results of this monitoring, as detailed in Section 6.1.1, will enter the survey analysis as data in the manner described in Section 10.0.

5.4 IMPACT OF NCC SYSTEM ON COMMUNITY AT LARGE

The social and economic effects of the NCC System on the overall community of Reading may be as significant as any one or all of the selected service applications. In order to determine the intended and unforeseen consequences of the system, a portion of the research is designed to examine the impact of the NCC system on public and private organizations. To this end, certain social, political and economic events that occur in Reading will be monitored with a view to specifying those overall impacts associated with the introduction of the NCC System into the community.

5.4.1 Impact on The Media

Reading currently has two daily newspapers, which are owned by the same company but which are published by separate editorial staffs. Reading does not have a local over-the-air broadcast television station and consequently, citizens of Reading and the surrounding metropolitan area must depend on television from other cities, such as Philadelphia, for television news and programming. One important effect

of the proposed NCC system will be to provide a model for population groups in Reading, other than the elderly, that demonstrates the potential uses which interactive cable television can serve in addressing the specific needs and interests of a local population. Knowledge of the way in which cable television has been able to provide information, and assistance to the elderly, should provide the basis for other groups in Reading to explore and utilize the cable system for their own needs. The potential impact of the NCC system may therefore be to increase the overall use of the cable television system by citizens of Reading.

In addition to the impact on the local cable television system, the other local media, such as newspapers and radio, may be expected to enlarge coverage of the elderly's events and expand their programming for the elderly as the NCC system develops. In this context, the NCC system may provide the elderly with a richer involvement with communications media and with an alternative source of information to the existing media in Reading. It is possible that the local newspapers and radio will increase their sensitivity and awareness of the elderly as a distinct population group with special needs and concerns.

In order to determine the impact of the NCC system on the existing media, any changes which occur in the programming and coverage given to the elderly in the local media will be identified and systematic patterns of change in attention to the elderly will be analyzed. Data will also be kept on the amount of coverage given to the elderly in news and feature columns of the local newspapers, both before and after the initiation of programming on the NCC system. With regard to the impact on the local cable company, the amount and type of programming which occurs on that system both before and after the initiation of the NCC system will be recorded. Where new users and uses of the system emerge, analysis of the reasons for such changes will be undertaken through interviews with the cable company and representatives of relevant groups.

5.4.2 Public and Private Organizations

The effects of the neighborhood communication centers will not be solely limited to the agencies involved in the public service experimental application. As the elderly become more organized as a group and involved in the provision of public services, other organizations, both public and private, may alter their activities and services which affect the

elderly. Although it is difficult to identify the precise form of such organizational responses, we believe that a wide range of organizations not directly involved in providing specific services to the elderly may modify their activities as the elderly attain greater recognition and cohesion in the community.

Private institutions, such as banks and retail stores, may, for example, provide special discounts and packages of services to the elderly. Similarly, the local community college may become more aware of the elderly as an important sub-group and design courses and educational programs for them. Such changes in community institutions which are related to the development of the NCC system may be as important in the life of the elderly as are the changes in the pattern of service delivery brought about through the specific service applications. In order to determine the magnitude and type of changes which occur within community organizations, a series of interviews will be conducted with representatives of governmental, educational, religious, commercial, and voluntary institutions prior to the initiation of the NCC system. The interviews will be designed to determine the range and extent of their programs for the elderly before and after the development of the NCC system.

During the course of the implementation of the project, any changes in the activities of such public and private organizations with regard to the elderly will be monitored, and a subsequent series of interviews will be conducted during the second phase of the programming to determine what changes, if any, have occurred in the organization's activities that affect the elderly.

6.0 COMMUNICATION AND OPERATION PROCESSES OF THE NCC SYSTEM

The NCC System is expected to produce a substantial change in the processes by which senior citizens communicate with each other and with public agencies and officials. This portion of the research will: analyze the patterns of communication generated within the NCC system; attempt to determine associations between these patterns and various impacts on service delivery and social behavior of participants; and chronicle the ways in which implementers and participants began, developed and changed communication and operational configurations and methods in order to achieve more satisfactory interactive telecommunications.

Hypotheses.

The following broad hypotheses relate to communication processes within the NCC system. They are articulated in a series of research questions and operationalized in a set of three studies. They will tend to show varying degrees of validity in respect to different mixes of subject matter, function, presentation, format, presenters, length of session, number of participants, constraints and barriers, metaphor,

participant satisfaction, and other variables.

The hypotheses are:

- that participants in the NCC system will produce and process information which will bring about greater utilization of the services which are the information subjects in the system. (This hypothesis is closely related to the first hypothesis in Section 5.0, Social and Political Impacts of the NCC System.)
- that people who are not communication professionals can learn to use telecommunications technology to produce and process information.
- that participants' acceptance of technology will be a function of the extent to which it is perceived to serve their needs and wishes.
- that participants are capable of organizing to sustain the operation of a system which serves their needs and wishes.
- that, to the extent that the actions of people producing their own information are perceived as socially/economically productive and useful, these

actions will compete favorably for support from both public and private sectors.

Three Studies: Research Questions

In articulating these hypotheses, the research will address a series of questions, which are operationalized as three studies:

1. Study of near-term effects
2. Study of longer-term and unanticipated effects
3. Chronicle of the experiment.

6.1 STUDY OF NEAR-TERM EFFECTS

In this study two sharply-defined objectives will be pursued: evolutionary optimization, and association of system events with impact studies.

6.1.1. Evolutionary Optimization

This is an objective of action research, namely, to keep participants continuously informed of research with a view to maximizing their use of the interactive system. Questions under this subhead are:

- A - What barriers and constraints to communication appear in the system or its users? How may these be eliminated or reduced?
- B - What mixes of session type, subject matter, mode, function, number of presenters, and other variables are rated as most satisfactory by participants?
- C - What changes can be effected in system operations and session organization better to satisfy the communication purposes of participants? How are these changes best implemented?
- D - To what extent is participant satisfaction dependent on inclusion or elimination of video in the interaction?

6.1.2. Association of Communication Events With Measurable Impacts

The attempt here is to project what is learned under "Evolutionary Optimization" onto the assessed impacts of the system. General questions here are:

- E - Are "more satisfactory" communications (in particular sessions or series of related sessions) associated with greater uptake of services or other impacts?

- F - Does increased participation in the NCC system associate with impacts such as increased uptake and referrals? Are such effects selective or general (with respect to services)?
- G - Does increased participation in the NCC system relate to qualitative changes in service delivery?

6.2 STUDY OF LONGER TERM AND UNANTICIPATED EFFECTS

The NCC system may be expected to produce a wide range of effects, both anticipated and unanticipated. Consequently, it is important that research activities be structured so as to describe and analyze both the anticipated and unanticipated outcomes. In order to analyze the unforeseen effects emerging during the course of the overall experiment, a rich and varied set of data will be required. In addition, it will be necessary to identify basic issues related to the unanticipated effects of the system. The following questions in this area of the communications research will be considered:

- H - How may interactions between elderly participants and service/official participants through the two-way NCC System be characterized? How do these interactions change over time?
- I - Are attitudinal changes seen in impact studies related to prior changes in the quality of system

interactions (interactions having to do with those subject areas associated with the attitudinal changes?)

- J - What actions were taken when a consequence previously unanticipated emerged as a concrete reality?

6.3 CHRONICLE OF THE EXPERIMENT

The chronicle of the implementation and use of the NCC system will be a comprehensive summary not only of events during the experiment, but also of meanings subsequently ascribed to those events by research. The chronicle will attempt to answer these questions:

- K - What decisions and events proved to be significant in development of the communication process in the NCC system?
- L - How were barriers to communication identified and reduced?
- M - How were constraints identified and minimized?
- N - How did participants change and adapt with regard to barriers and constraints?
- O - What conflicts emerged? Were they resolved, and how?
- P - Which uses of the system developed most readily and how did use of the system change over time?
- Q - What mixes of communication elements (type, mode, subject matter, etc.) proved most "satisfactory" during the experimental period?

- R - What relationships appeared among training, implementation, and administration? (For example, did more rapid learners emerge as more active session participants and administrators?)
- S- At what points were participant-trainees able to assume responsibility for system functions and replace professionals? How much training had they required?
- T - What was learned about relationships between internal communication processes and measured system impacts?
- U - What sources of ongoing fiscal support were identified and developed during the course of the experiment? What were the criteria for such support (objectives, subject matter, mode, functions, research activities, support level, policies with regard to?) Was the NCC system enabled to continue past the experimental period?

6.4 DATA COLLECTION WITHIN THE NCC SYSTEM

Data collection relates to events within the frameworks of single sessions as well as to the processes by which system staff operate the system and participants learn how to use

the system and assume responsibilities for administrative and operational tasks. Therefore, it becomes necessary to assign some data collection to processual material not directly attributable to single sessions. Furthermore, to assure comprehensive collection of data on communication processes involved in the service delivery functions discussed in Sections 3.0, 4.0, and 5.0 and to capture presently unanticipated consequences, a wide range of data will be generated during the course of this research. This data base will be preserved as raw data for use by members of the Consortium and by others engaged in theoretical and empirical research in teleconferencing and telecommunications policy.

Session Data and System Data

"Session data" refers to the communication events within single sessions; the unit of study is the session. The parameters are interpersonal communication, subject matter, space, time, and technical potentials/constraints.

"System data" refers to tasks associated with the operation of the system; the unit of study is a person-day. The parameters are operational tasks, person-contacts type of communication, task-location, and time.

Thus, session data is gathered within the frameworks of

sessions and details the interactive communications within the system; system data is gathered outside the frameworks of sessions and details the operational support for the system's interaction capabilities as well as for its continued viability beyond the experimental period.

These data, in addition to providing the base for analysis of research questions in this section 6.0, will be utilized in assessment of the costs of system operations and quantifiable as well as non-quantifiable impacts (studies in Sections 3.0, 4.0, and 5.0).

6.4.1 Session Data

In order to study the processes of communication in interactive sessions, the research will record variables related to setting, subject matter, presentation and participation patterns as well as subjective perceptions related to acceptance of the system by participants.

Interactions between researchers and participants -- action research -- will be based on these data as they are generated, in order to keep participants informed as to how to maximize their use of the system. These data will also be associated with impacts on service delivery and behavioral changes of participants. These data will record long-term

changes in use of the system and responses to unanticipated events. Together with system data, they will be summarized in the chronicle of the experiment.

Session data will be recorded by researchers, system staff, session aides, monitor panelists, and participants* in a number of formats, including check-lists, scales, questionnaires, and participant-observer forms.

The relationships among session data (variables), forms of data collection, persons responsible for data collection, and research questions are visualized in condensed fashion in Fig.6.1, Table A.**

*See 6.5 below which outlines the duties of system staff and research personnel.

**See Appendix C, Research Instruments, in which the substantive research categories are detailed and assigned specific operational form. Also see Appendix D, Analysis of Communications Research Data, in which the research questions are linked to specific items in the research instruments. Questions (beginning p. 143) A, B, C, D, H, I, and Q are related solely to session data. Questions E, F, G, J, L, M, N, O, P, R, S, and T are related to both session and system data.

Fig. 6.1

TABLE A
SESSION VARIABLES

VARIABLE CATEGORIES	FORM OF DATA	COLLECTED BY	RELATED TO QUESTION(S)
Session Variable Categories 1 Location (NCC or Remote)	Check-list (Table I)	NCC Coordinators; Senior Aides	General
2 Session # (Serial)	"	NCC Coordinators	General
*3 One-slot or series	"	"	B, E, Q, T
*4 Subject matter	"	"	B, C, P, Q
5 Chairing location	"	"	B, C, Q
6 Number of locations	"	"	B, Q
*7 Mode	"	"	B, C, D, P, Q
*8 Type	"	"	B, P, Q
*9 Style	"	"	B, C, P
*9a Presentation	"	"	B, C, P
*9b Participation	"	"	B, C, P
*9c Metaphor	"	"	B, C, P
*10 Function	"	"	B, C, P, Q
*11 Interaction behaviors	3-point scales (Table I)	"	A, B, C, D, E, H, I, L, M, P, Q, T
12 Presenter(s)	Questionnaire (Table I)	"	B, P, Q, R, S
13 Length of session	"	"	C, P
14 Number of Participants	"	NCC Coordinators; Senior Aides	F, G, R, S, T
15 General (date, hour, weather)	"	"	General
16 Seating Arrangement	Observation (Table II)	Observers (live only)	C
*17 (Repeats of 4, 8, 9, 10, 11)	"	Observers (live and videotape)	I, J, P, T
*18 Time Sequence, individual behaviors	"	Observers (live only)	A, H, I, J, L, M, N, O, R, T
*19 Post-Session Evaluation	"	Observers (live and videotape)	B, C, D, E, H, N, P, Q, T
*20 Post-Session evaluation of barriers and satisfaction	Questionnaire (Table III)	Monitor panels: One-way and NCC Participants	A, B, C, D, E, I, L, M, N, Q, T
*21 Subject Matter evaluation	"	"	A, I, L, M, T
*22 Agreement/disagreement with Observers	"	"	A, B, C, D, E, H, I, L, M, N, Q, T

Notes: Tables I, II, III are included in the appendix C. Variables are spelled out in detail.

The categories starred include multiple variables. Those not starred are single variables. Several of these variables are also taken into account in cost studies and sociological analysis.

6.4.2 System Data

In order to study the processes of operational task accomplishment in the system by both staff and participants, the research will record variables related to individuals' activity, time expended, location, other persons involved, and communications used.

These data will provide the base for assessment of staff costs in relation to a variety of functions, including training and education of participants, planning, cooperation with agency personnel, public relations, and exploration of additional uses for the system, as well as supervision and administration. These data will reflect the ways in which system operations developed and changed, both to effect efficiency and economy, and in response to shifts and expansions of communication requirements by the participant. Together with session data, they will be summarized in the chronicle of the experiment.

System data will be recorded by system staff and senior aides* in logs and diaries.

*See 6.5 below which outlines the duties of these personnel.

The relationships among system data (variables), forms of data collection, persons responsible for data collection, and research questions are visualized in condensed fashion in Fig.6.2, Table E.*

*See Appendix C. Research Instruments, in which the substantive research categories are detailed and assigned specific operational form. Also see Appendix D. Analysis of Communications Research Data, in which the research questions are linked to specific items in the research instruments. Questions (beginning p.143) A, B, C, D, H, I, and Q are related solely to session data. Questions K and U are related solely to system data. Questions E, F, G, J, L, M, N, O, P, R, S, and T are related to both session and system data.

Fig. 6.2

TABLE B
SYSTEM VARIABLES

VARIABLE CATEGORIES		FORM OF DATA		COLLECTED BY		RELATED TO QUESTION(S)	
System Variable Categories		Logs and diaries (Table IV)		System staff			
*23 Activities of Staff						K, O, P, R, S, U	
*24 Staff Interaction		"		"		K, O, P, R, S, U	
*25 Activities, by System Operation		"		"		K, O, P, U	
26 Time of Activity		"		"		K, O, P, U	
27 Place of Activity		"		"		K, O, P, U	
*28 Type of Activity		"		"		K, O, U	
29 Participant Activity Time		Logs (Table V)		Senior Aides		F, G, R, S	163
30 Participants, per Activity and Time		"		"		F, G, R, S	153
*31 Participant Activities		"		"		R, S	
*32 Monitor Panel Minutes (See 6.5.2)		Meeting Minutes		System Coordinator		J, L, M, N, O, T	

Notes: Tables IV and V are included in the appendix C. Variables are spelled out in detail.
 The categories starred include multiple variables. Those not starred are single variables.
 Categories 23-28 are directly related to analysis of costs of system operations and costs of specific service delivery.
 Categories 29-31 are directly related to analysis both of costs of specific service delivery and assessment of participant assumption of operational responsibilities.

6.5 PERSONNEL WHO WILL PERFORM COMMUNICATIONS RESEARCH TASKS

6.5.1 Communications Researchers

The Communications Investigator will supervise the research activities of this section 6.0, will conduct regular (weekly) observations of variables 16 through 19,* and will write the reports dealing with questions A through U, above.

The Communications Investigator will be assisted by Research Scientists who will also conduct observations of variables 16 through 19, will administer brief ad hoc survey questionnaires to NCC participants and telephone interviews to one-way participants; these questionnaires and interviews are to be based on variables 20 through 22.

6.5.2 Monitor Panelists

Monitor panelists will be chosen bi-weekly as a rotation from the roster of participants who volunteer to serve on these panels. The bi-weekly panel will comprise one

*Numbered variables are specified in Tables A and B, above, and in Tables I-V in Appendix C.

senior participant from each NCC and one agency or government representative. Panelists will commit to attending all sessions during the subject week and filling out questionnaires based on variables 20-22 after each session.

Monitor panelists will meet at the end of the subject week with the Communications Investigator, System Coordinator, and one other member of the research team for discussion of their observations. Minutes (System Variable Category 32) will be kept of these meetings, with especial attention to consensus on critical incidents and recommendations for change. Recommendations of the Monitor Panels will be forwarded through the System Coordinator to the System Planning Committee.

6.5.3 Senior Aides

Each NCC will have Senior Aides on duty during sessions and at other times of day when senior and agency participants are engaged in training, administrative, or preparation activities.

6.5.4 System Staff

System staff charged with research responsibilities are: System Coordinator, NCC Coordinators, Production Researcher, Engineering Consultant. All those named are keeping logs and diaries (see system variables 23-28). The NCC Coordinators, in addition, will be responsible for recording data on session variables 1-15.

The System Coordinator, in addition, will be responsible for keeping minutes of Monitor Panel meetings and conveying recommendations of the Monitor Panels to the System Planning Committee.

7.0 CONTROL DESIGN AND SAMPLING FRAME

The following section describes the control design and sampling evaluation of the NCC system and its service-delivery functions. A quasi-experimental research design, with before-and-after measurements on treatment and control groups in three different residential conditions will be used. In addition, provisions are made to assess the utility of one-way diffusion of the NCC-generated signal to home-TV receivers.

Data Sources -- Data for this research will be generated by:

- interviews with samples of elderly populations
- records kept, both routinely and at the request of this project, by service agencies
- informant interviews with personnel or governmental and service agencies
- observations and monitoring of participation and activities at neighborhood communication centers
- records to be kept by the operators of the NCC system.

Qualitative and Spot Studies -- In recognition that special "spot" investigations will be called for we will develop

contingency plans to evaluate reactions to unusual program offerings, to attention that may be given the NCC system from time to time in the local mass media, to hook-ups with special population groups (e.g., a high school history class) etc.

Applicability

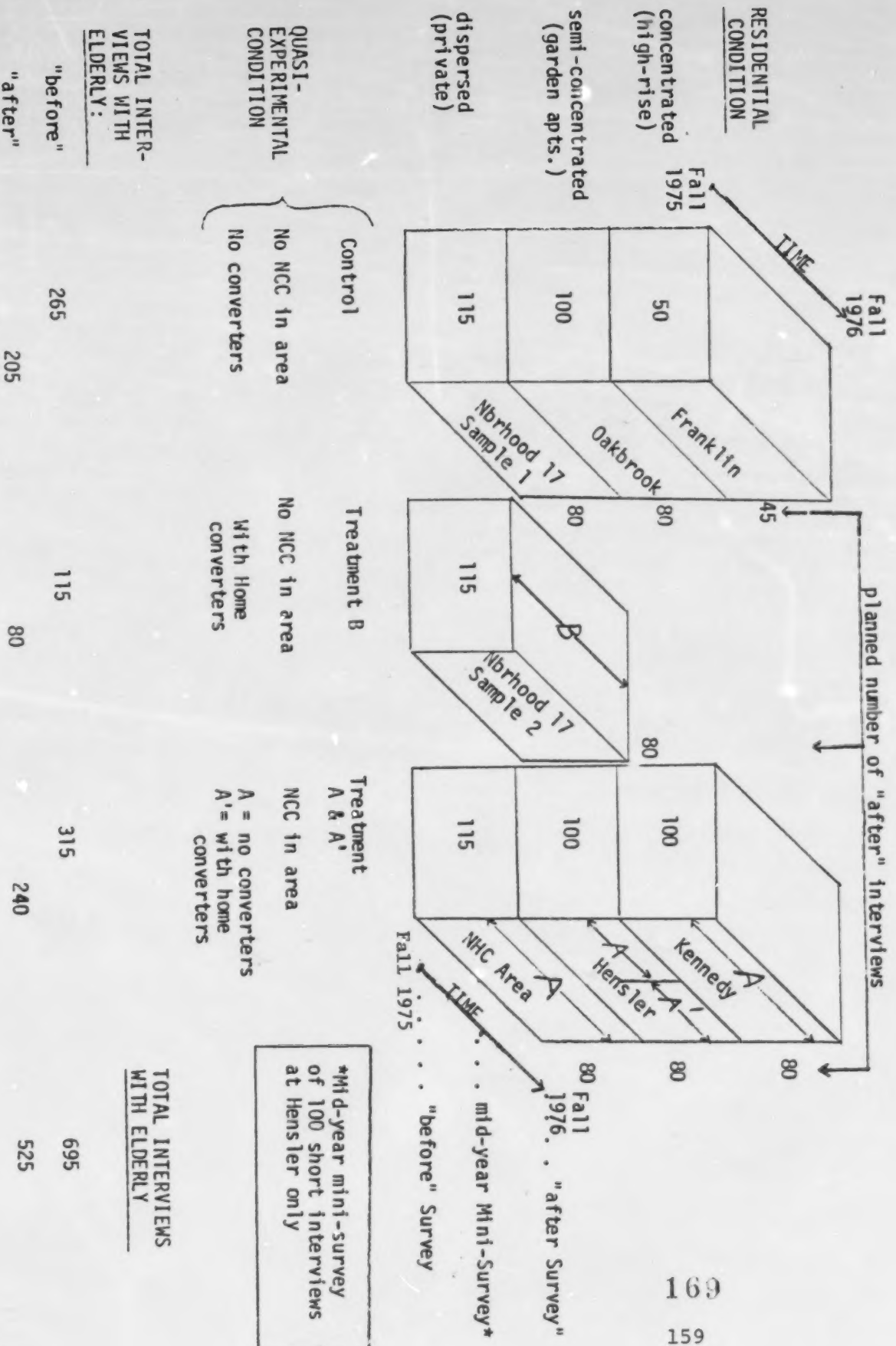
The control design and sampling frame apply to the interview survey of elderly persons mentioned as the first of the "Data Sources" above and contained in Appendix B. They also apply to the analysis of the remaining data enumerated under "Data Sources", in varying degrees, which is indicated in their respective section.

7.1 CONTROL DESIGN

The Control Design includes stipulations for before and after measurement and specifications for various comparison groups within the specifications for experimental and control groups. Figure 7.1 page 159 summarizes the control design.

FIG. 7.1 OVERALL CONTROL DESIGN PLAN

(The planned number of "before" interviews is shown on the face of each block)



7.1.1 Before and After

The impact of the NCC system on the delivery of services and on elderly citizens will be assessed before the installation of the NCCs and one year later. Before and after measurements will be taken on the same samples, yielding a panel design.

7.1.2 With and Without Easy Access to NCC

Experimental groups will be comprised of those Senior Citizens with varying degrees of access to the NCC system, while control groups will have no NCC access. It will be necessary to assess any observed increase in the dependent variables resulting from the operation of the NCC system over the period of a year and not resulting from other events occurring concurrently, or from the fact that every surveyed person will be one year older, and one year richer in experience with social services. Therefore, it will be necessary to compare any increases in the dependent variables occurring for those elderly populations which have easy access to the neighborhood communication centers (Treatment A), with possible increases occurring for groups of the elderly lacking such easy access (Control).

7.1.3 Three Degrees of Residential Concentration

The effects of the neighborhood communication centers are to be examined in three contrasting kinds of residential sites: publicly owned high-rise apartments set aside for the elderly; publicly owned garden apartment projects where high concentrations of the elderly live near younger families in the same or an adjoining project; and private residential neighborhoods where senior citizens live dispersed among other age groups. In the high-rise apartments (concentrated residence) access to the new communication centers, which will be located in the residential building, will be particularly easy; at the same time, the concentration of elderly residents enhances the existing communication lines to and among the elderly. By contrast, in the open residential neighborhoods (dispersed residence), reaching the communication center will require movement over several city blocks, and the dispersion of the senior citizens makes them less accessible by conventional communication lines from agencies and from fellow senior citizens. The garden apartment (semi-concentrated residence) condition occupies a middle ground, although closer to the concentrated than to the dispersed.

7.1.4 Extension via Home Terminals

An addition to the basic research design is the evaluation of

the possibility of extending possible benefits of the NCC system through one-way transmission to home video terminals. Two different ways of utilizing such transmission to home will be assessed, as substitutes for or supplements to NCC access.

7.1.4.1 Home Terminals as Substitutes for NCC Access

In order to see whether one-way transmission can spread some of the hoped-for benefits of the NCC system to persons who do not attend any NCC, a number of elderly persons without easy access to any of the NCCs are to be equipped with the converter which will make this diffusion possible (Treatment B). This will be done in an open residential neighborhood (dispersed residence) -- the same neighborhood, in fact, where other elderly households not equipped with converters will serve as a control group. Any increase over the year in the dependent variables which may occur for this converter-equipped sample will be compared with that for their elderly neighbors who are not equipped with these converters.

7.1.4.2 Home Terminals as Supplements to NCC Access

In order to see whether one-way transmission of the NCC offerings to home video receivers can raise attendance at an

NCC, or increase the impact of such attendance, elderly households in a setting which does provide access to an NCC (Treatment A), will be equipped with home converters as well (Treatment A'). This will be done in the garden apartment project chosen as the treatment site for semi-concentrated residence, since there is reason to believe that attendance at the NCC here may otherwise be relatively low. (It is, of course, also possible that the availability of passive reception of the NCC signal at home will discourage, rather than stimulate, attendance at the NCC.) In order to assess the incremental impact, if any, of the one-way transmission, the converters are to be installed only after half a year's operation of the NCC system (ca. July, 1976); attendance at the NCC at that site will be monitored before and after the installation of the converters; agency-generated outreach figures will be determined separately for the two halves of the year; and a "mini-survey" of short interviews will be conducted with this population just before the installation of the converters, to obtain essential data on consumer competence.

7.1.5 Number of Households to be Interviewed

The above decisions call for seven comparison groups, as shown in Fig. 7.1 p. 159 : A "Treatment A" Group (with easy

access to an NCC) in each of three residential conditions; a control group in each of the three residential conditions; and a "Treatment B" Group (home converters, but no easy access to an NCC) in only one residential condition: dispersed private residence.

A target of at least 80 completed before-and-after interviews in each of these comparison groups is regarded as essential. Not all persons who are interviewed in the "before" survey will be available for re-interview in the "after" survey: some will inevitably be ill, deceased, temporarily absent, moved out of the sampling site, or simply unwilling to be re-interviewed. This "sampling mortality" is estimated at 20% in public housing projects, and at 30% in private-residential areas. Consequently, the "before" survey is to comprise 115 interviews in each private-housing group, and 100 in each public housing group -- except for one public-housing project, which contains only 50 households. This amounts to 695 interviews in elderly households on the "before" survey and 525 on the "after" survey, as shown in Fig. 7.1. Fig. 7.1 also gives the names of the housing projects and neighborhoods chosen for each condition. The reasons for these choices are given in Section 7.2.1.

7.2 SAMPLING FRAME

Given the basic design described in the preceding section, the sampling frame will involve the selection of residential sites, the selection of households within sites, and the selection of respondents within households. It also involves the allocation of households to Treatment B (home converters), fall-back policies in case of low response rates, policies covering unachieved interviews, and the structure of the Wave II ("after") sample.

7.2.1 Selection of Residential Sites

Samples of elderly populations will be selected from three different residential conditions.

7.2.1.1 Concentrated Residence

The concentrated populations with and without easy access to a neighborhood communication center will each consist of the residents of one of the five high-rise apartment buildings which the Reading Housing Authority maintains for the elderly in downtown Reading. One of these buildings, Kennedy Tower, contains 150 elderly households. This is the concentrated population with an NCC (Treatment A).

Most of the remaining high-rise public housing sites for the elderly are unsuitable as control sites, since they are only a few blocks away from the designated NCC site at the new Horizon Center, which the Berks County Senior Citizens Council is to open in October, 1975. The only exception is Franklin Tower, which contains 50 households. Moreover, it is six blocks away from another designated NCC site, the one at Kennedy Tower. It remains to be seen whether the intervening blocks will discourage Franklin residents sufficiently from attendance at the Kennedy NCC to make it a suitable control group.

7.2.1.2 Semi-Concentrated Residence

Because of the uncertain control possibilities in concentrated housing, more emphasis will be placed on semi-concentrated populations -- i.e., elderly persons living in publicly-owned garden apartment projects. {

The semi-concentrated population with an NCC will be located in Hensler Homes. This project consists of 102 households of elderly persons. It adjoins Glenside Homes, where elderly and younger households are interspersed.

It is in Hensler Homes that home converters are to be installed at mid-year, as possible stimulus to greater NCC attendance or impact (Section 7.1.4.2). Hensler Homes is a suitable site for this special experiment, because the generally low levels of participation in community activities there makes it likely that NCC participation, also, may require a special stimulus.

Oakbrook Homes will serve as the control population with semi-concentrated residence. In this garden apartment project, some 230 elderly persons live interspersed among a large number of households of younger age groups. Oakbrook is located in southwest Reading, at a great distance from any NCC site. Oakbrook, on the other hand, differs from Hensler in that it is close to the office of the Berks County Board of Public Assistance; therefore the Oakbrook population may be better reached by welfare programs than are other populations. The interest of the proposed research, however, lies in increases in outreach over the year. Such increases are not likely to be affected by proximity to the county assistance office. Even if they are, the effects on the research results can only be in the conservative direction, since Oakbrook is designated as a control group.

7.2.1.3 Dispersed Residence

Two types of elderly citizens living in dispersed residential conditions will be sampled: those with easy NCC access (experimental) and those without easy access (control).

The dispersed population with easy access to a neighborhood communication center (Treatment A) will consist of the elderly residents living within a distance of a certain number of blocks around the new Horizon Center, where one of the Neighborhood Communication Centers will be located.

Only households in privately-owned residential apartment buildings will be considered eligible. Public-housing, any communal housing facilities, nursing homes, and other special housing facilities set aside for elderly populations will be excluded.

The precise number of blocks will be determined, after an initial screening of households, as the smallest number of blocks which will contain at least 115 households, each including at least one elderly person. It is estimated that this will require approximately 36 blocks.

The screening is, in principle, to be done in widening concentric circles around the Horizon Center. The concentric circle pattern will, however, be modified so as to respect physical barriers (industrial, railway-track and unimproved land to the west) and traffic arteries signalling major breaks in the ecologic pattern (Penn Street to the south). The area will, consequently, consist of portions of Neighborhoods 1, 7, and 8, as designated by the Reading Planning Commission.

The dispersed population without easy access to a neighborhood communication center will consist of the elderly residents living in an area of the city far distant from the new BCSCC building and its neighborhood communication center, but otherwise matching the area surround the Horizon Center as nearly as possible with regard to residential pattern, general physical and economic condition as a residential area, and density of the elderly population.

The Reading Planning Commission's Neighborhood 17 has been designated as the site of this population. Reasons for this selection are detailed in Appendix B, and may be summarized as follows:

While there is no perfect match for the dispersed residence Treatment area, Neighborhoods 9, 10, and 17 are

similar to that area. While Neighborhoods 9 and 10 match the Treatment Area a little better than Neighborhood 17 does, the latter is a more suitable control area, since it does not have a direct bus connection to the new Horizon Center with its NCC.

Section 7.2.2.3 will describe the screening and selection, within this control area, of two independent samples of 115 households each, one to serve as control, the other to be equipped with home converters (Treatment B) -- as outlined in Section 7.1.4.

The decision to use geographic areas as the treatment and control populations for private residence, it should be noted, is based on the assumption that the Horizon Center will draw its clients differentially from the geographic area surrounding it.

Section 7.2.2 describes the selection of households within sites and alternate definitions of treatment and control populations, in the event that the screening of households, and/or interviews with an area sample of elderly persons in these private residential areas cannot be successfully completed.

7.2.2 Selection of Households Within Sites

In public housing high-rise and garden apartments, respondent households will be randomly sampled from lists of elderly residents to be obtained from the housing project authorities. Population and sample sizes are as follows:

<u>Housing Project</u>	<u>Number of Elderly Households</u>	<u>Planned Number of Interviews (Wave I)</u>
Franklin	50	50
Kennedy	150	100
Oakbrook	200 ¹	100
Hensler	102	100

In the Horizon Center area, a door-to-door canvas is to list households containing at least one elderly person, block by block, until the requisite number of households has been located. Any remaining ambiguities are to be resolved by random selection.

In the dispersed-residence control area (Neighborhood 17), an estimated 390 elderly households must be identified by a door-to-door canvas, in order to assure 230 completed interviews on the "before" survey. 115 of these

¹ Estimate of 200 elderly households at Oakbrook based on known figure of 234 elderly persons.

are to be equipped with home converters, to constitute the Treatment B sample; the other 115 will constitute the dispersed-residence control sample. (Cf. Fig. 7.1, p.159). In order to minimize contamination between Control and Treatment B households through visiting or word-of-mouth, whole blocks or, preferably, sets of blocks are to be assigned to one condition or the other. In order to minimize screening expenses, the following sequential decisions are to be used:

Estimate the number of blocks necessary to contain 290 elderly households; draw an interval sample of the number of blocks, in such a way as to maximize distances between the chosen blocks; do a door-to-door canvas in those chosen blocks, identify the elderly households and ascertain their actual number. The number of households in the chosen blocks can, as necessary, be reduced by random deletions, or augmented by adding households contiguous to each chosen block.

Allocation of blocks, or block clusters, to Control Treatment B is to be made randomly or, if feasible, in a checkerboard pattern. The actual installation of converters will occur after interviewing, and hence need not include households where "before" interviews could not be completed.

Should it appear, after the completion of screening, that contamination cannot be sufficiently minimized in this manner, the assignment of even larger clusters (half-neighborhoods, or even Neighborhood 17 vs. Neighborhoods 9 and 10) to the two conditions will be explored.

Fall-back procedure in case of low response rate in private-residential neighborhoods. -- It may be difficult to achieve a meaningful response rate in the dispersed-residence neighborhoods by following the area-sample procedure outlined above, or even to complete the advance screening by a door-to-door canvas. Our pilot experience to date gives conflicting evidence on this point. Should further exploration indicate that the area sampling plan is not feasible, it will be replaced by the following plan:

Golden-age clubs, congregate-meal sites, and perhaps other organizational links to elderly residents, such as churches, will be sought out in the designated neighborhoods. Their collaboration and endorsement will be solicited. In organizations which are located near, or within easy bus access, of the new Horizon Center, members or clients will constitute the Treatment A population; members of similar organizations in Neighborhood 17 (and perhaps, other neighborhoods far removed from any NCC) will constitute the Treatment B and control populations. Random sampling of organizations or members will be used, in case excess

numbers should be encountered. Allocation to Treatment B or Control will be for whole organizations.

This fall-back procedure has the drawback that the samples would be limited to those relatively active or organization-wise persons who can be reached in this manner, but it would retain most of the other advantages of an area sample.

7.2.3 Selection of Respondents Within Households

About 90% of the residents in public high-rise buildings for the elderly, and an unknown portion of the elderly living elsewhere, are living in dwelling units by themselves, so that the issue of selection within the household does not arise.

In the case of households containing more than one elderly person, or a married couple only one of whom qualifies as "elderly," concurrent interviews with both parties will be sought, but the interviewer will have discretion to complete the interview with only one of the parties if he or she patently appears to be the one who carries the burden of interfacing with public agencies for the pair.

A portion of the elderly persons to be surveyed in private dwellings will prove to live with younger relatives, or perhaps friends. In these cases, interviews will, in the first instance, be sought with the elderly person, but the interviewer will have discretion to include the younger relative or friend concurrently in the interview, if this seems indicated for reasons of rapport, or if it is evident that this person plays an important interface role in the relations between the elderly person and public agencies.

This interviewing policy within the household is based on the principle that the matter at issue is contact between each elderly person and the outside world of service agencies, government, and the community. If that contact is mediated in important ways by a spouse, roommate, or younger relative, then the matter at issue is the contact of the elderly person with the outside world, as it is mediated by that interface person. That person's knowledge, attitude, and skills in dealing with service agencies are therefore to be regarded as simple extensions of those of the elderly person himself.

Therefore, while the concurrent interviews alluded to will seek separate answers to a certain number of questions from each participating person, most of the questions will, so

to speak, be answered "for the household." (See also Section 5.2.2.1.)

7.2.4 Unachieved Interviews, Substitutions and Foreign Language

A serious effort will be made to complete the planned number of interviews with the households to be pre-designated according to the probability sampling frame described above. Substitutions will be permitted, for up to 25% of each of the samples, in cases of persistent refusals, prolonged absences, illness, patent risks to the respondent's well-being, other conditions incapacitating the sampled person from participation in an interview, or other reasons beyond the survey operator's control. Substitutions must be made from a randomly chosen and ordered list of pre-designated substitute households, in the pre-designated order. Reasons for all non-completions and substitutions will be carefully recorded, and data from the originally designated respondents will be distinguished from those originating with substitutes so as to allow validity comparisons.

Substitutions will also be allowed if an interview cannot be completed in the English language. This policy is based on the assumption that it would eliminate only a very small

fraction of the interviews in Reading, and will be amended if the assumption proves incorrect.

7.2.5 Matching the "Before" and "After" Samples

In designing a survey to gather data before the installation of the NCC system and one year later, one confronts the choice between drawing a new, independent, sample for the "after" period (trend design), and so-called panel design, in which data are gathered concerning the same cases (in this instance, the same households) both before and after.

The trend design has on its side greater economy (since a panel design requires a larger initial sample) in order to achieve the desired two-wave sample in spite of loss of cases over the 12-month period (especially sensitive with this age group). The trend design also allows the use of simpler inferential statistics. The panel design has the advantage of allowing comparisons between changers and non-changers, of recognizing possible compensating changes which may underly relatively constant aggregate figures; and of a tighter control of extraneous variables with each case "serving as its own control."

In the present instance, a panel design has the additional advantage of guaranteeing that all "Treatment" respondents will have been exposed to the treatment for an equal length of time, which would not be the case if the Wave II sample included people who had moved into the site during the inter-Wave period.

For all these reasons, a panel design has been decided upon. The "after" survey will seek to complete interviews with respondents who will have moved from their "before" address, provided the move did not take them out of their sampling site, and hence their previous residential and quasi-experimental condition (cf. Fig. 7.1, p. 159). Estimated panel losses are shown in Section 7.1.5.

7.3 SPECIAL FEATURES AND PROBLEMS OF THE RESEARCH

7.3.1 Quasi-Experimental and Multivariate Research Models; Monitoring of Simultaneous Events

Although the design outlined in Section 7.1 resembles, in its outward form, the classical experimental design with before-and-after measurements and experimental and control groups, it does not constitute a randomized experiment, and is subject to possible distortions from a number of possible sources, each of which will require special compensatory steps.

Because residents cannot be randomly assigned to the housing complexes and neighborhoods with and without an MCC, the design is most appropriately characterized as "quasi-experimental," (Campbell and Stanley, 1963). This means that pre-treatment differences between experimental and control groups may go beyond those due to chance factors. Between the two populations in public high-rise buildings, and between the two in public garden apartment projects, relevant differences are likely to be small, since assignments of new residents to one building or project and another are based simply on the occurrence of vacancies, and since social service activities hardly differ among the several high-rise buildings. In the two private-dwelling

areas designated for the survey, pre-treatment differences may be larger. Only an approximate match in economic, social and physical characteristics could be achieved. Any remaining important difference in experience or background variables will, therefore, have to be discounted statistically through the appropriate multivariate techniques.

In addition to possible pre-treatment differences between experimental and control groups, events that may occur between the first and second survey may confound the results of the comparison. The control group design protects against such confounding insofar as the "simultaneous events" affect all study populations equally, but there may well be "simultaneous events" which affect the several study populations differentially. No research design can guarantee automatic protection against such possibilities here, short of making comparative studies between matched sets of cities -- a procedure whose expense could not be justified. Protection in the study proposed will not be automatic, but will have to rely on the researchers' diligence and sensitivity. An effort will be made throughout the study period to become aware of relevant occurrences. A prime resource for this purpose will be monitoring of topics raised by the elderly participants in the NCC activities.

Possible differential exposure to such occurrences will, as far as possible, be ascertained in the course of the Wave II interview, so as to make the appropriate multi-variate controls possible.

In order to maximize the likelihood of becoming alerted to various possibilities, research personnel will be stationed in Reading for extended periods at intervals throughout the study period, but especially during the preparatory phase and during the initial period of the network's operations. All pilot work, including extensive trial interviews, is being conducted by research personnel and assistants trained in the social sciences, under the direct supervision of the senior researchers. The bulk of the interviews with the 695 elderly persons are sub-contracted to National Analysts, Inc., a professional field research firm. Observations of interaction in public places and interviews with service and agency personnel will be conducted by research personnel and assistants.

7.3.2 Hawthorne, Novelty, and Training Effects

As with most innovations taking place in the public eye, it is to be anticipated that some portion of their apparent effects will be due to their novelty value, and to the fact

that participants will be aware of taking part in an experiment, i.e., the so-called Hawthorne Effect.

An ideal research design will cope with this problem by conducting not just two, but multiple waves of surveys, after the NCC system has been in operation varying lengths of time. Such a procedure is prohibited here by its expense, as well as by the necessary limitation on the length of the study period.

Most of the harm will, however, be avoided by conducting the first survey toward the end of the 8-month preparatory period which is to precede any cable hook-up. This period is expected to see considerable local publicity and interpersonal-network coverage of the forthcoming NCC system. The period will also see some involvement in the preparatory activities on the parts of groups of the elderly, who will train to become software producers and program operators. For these reasons, it is likely that Novelty and "Hawthorne" effects will already be reflected in the "before" survey, and hence not confound comparisons between the "before" and "after" data.

The very same reasons, to be sure, also threaten to lead to an underestimation of NCC effects, insofar as the training

which some sample members will participate in before the Wave I interviews anticipates the effects of exposure to the NCC system. Efforts are therefore being made to keep service-rated content out of the "training" until after the Wave I interviews, and to conduct the interviews especially early (Sept.15 - Oct.10,1975) in two of the three training sites.

In addition, a micro-survey (a special short interview), is to be conducted with the trainees at one of these sites, Kennedy Tower, early in February 1976, to assess the consequences of this training on the survey's dependent variables.

7.3.3 Neighborhood Center vs. Neighborhood Communication Center System

One may ask on what basis any achieved impacts can be credited to the interactive cable system, rather than simply to the neighborhood centers for the elderly, which might well have an effect in the complete absence of any cable network.

Two aspects of the plan are relevant in reply to this query.

- a) The public housing projects -- high-rise as well as garden apartments -- all feature already existing community and recreation rooms. These rooms have been used for manifold activities and will, in fact, continue to be so used. Any effects of these community rooms will thus be reflected in the "before" measures, and are, therefore, not likely to confound the comparisons.
- b) The NCC to be installed in one of two private-dwelling areas to be surveyed is to be located in the Horizon Center, a new multi-service center, to be opened in October, 1975. This center will be in operation one month before interviews within this area take place.

7.3.4 Impact of the New Multi-Service Horizon Center vs.
That of the NCC Network

Since this new facility will be operating in the same location as one of the NCCs, it will not be simple to distinguish its continual, cumulative impact from that of the NCC, even though some of the first initial impact of the installation of the multi-service center will be subsumed in the Wave I baseline data.

For this reason, it will be necessary to make internal comparisons within the sample of elderly persons residing in the vicinity of this center, between frequent participants in the local NCC, those who do not participate more than minimally in the NCC but nevertheless frequent the BCSCC Multi-Service Center, and those who do neither.

7.3.5 Impact of the NCC System, as Operated, vs. Possible Variants

An NCC System can obviously be operated in many different ways, including, for example, variations in programming and sequences, variations in the distance between TV camera and participant, etc. The variations to be investigated as to cost are set forth in Section 4.1. A more detailed examination of senior citizen responses to such variations within NCC operations is described in Section 6.0. However, the planned evaluations of the impact of the system on services to the elderly and on their social and political relations will not be primarily concerned with these variations. As a matter of fact, we have deliberately adopted a policy of modifying and varying the manner of programming and operation of the NCC system throughout the study period, so as

to take advantage of experiences and lessons learned in the process. It will thus not be possible to compare the impact of programming and operating the system one way with that of doing it in some other specified way.

The goal of the proposed evaluation will, instead, be to ascertain what impact can be achieved by an NCC system when it is operated in the best manner that can be achieved according to the currently available skills and experience. If any worthwhile impact has once been demonstrated, it will have to be left to later studies to ascertain whether it could not also have been achieved in other, possibly simpler ways.

7.3.6 Fall-Back Strategy in Case of Low NCC Participation Rate in The Dispersed-Residence Treatment Group

If the NCC participation rate among this group proves to be low resulting in a very small number of surveyed NCC participants, their number will be supplemented by up to 40 interviews with persons drawn from among NCC participants at the Horizon Center, no matter in what area of Reading they reside, just so it is in private, dispersed housing. These special interviews will be done in February, 1976,

when it should be possible to identify participants (The NCC program will commence January 1.)

To estimate effects of lateness of these interviews, short interviews with participants at Kennedy will also be done in February 1976; (they will already have been interviewed in Sept. - Oct. 1975). Figures from geographic samples will determine the extent of participation; figures from the special participants sample will gauge changes among those who participate. For the latter purpose, the Neighborhood 17 sample will be matched by deletion to crucial characteristics of the participant sample.

8.0 ORGANIZATIONAL DESIGN AND MANAGEMENT

The proposed project will be jointly administered by the Alternate Media Center of the School of the Arts and the Graduate School of Public Administration, New York University, and will be under the direction of two Co-Principal Investigators, representing each school. Jacqueline Park is Associate Professor in the School of the Arts and Mitchell Moss is Assistant Professor in the Graduate School of Public Administration.

An advisory board will provide periodic review and evaluation of the project's activities and progress. The Advisory Board consists of representatives of private cable television firms and of scholars from a variety of social science disciplines. The Board will meet as a whole on a bi-annual basis and, in addition, individual members of the Board have agreed to be available for informal consultation with project staff members as needed. Each member of the Board has already been involved with the project on an ad hoc basis; thus the structure of the Board is built on existing informal relationships with the Consortium.

The Principal Investigators will have overall responsibility for the management and direction of the project. For purposes of administration and to ensure the clear allocation of re-

responsibility, the project has been formally structured into two major components: research and implementation. Jacqueline Park will coordinate research and implementation components; Mitchell Moss will have responsibility for directing and supervising research activities.

The Implementation Team, under the direction of Red Burns, will be responsible for the establishment of the Neighborhood Communication Centers, training of paid crew and volunteers, development of programming, and the operation of the Centers.

Representatives of the public and private organizations in Reading will comprise a Standing Committee to advise the Implementation Team on all matters affecting local acceptance of and involvement with the project. The members of the Standing Committee are Eugene Shirk, Mayor of Reading; Frank Ruch, Executive Director of the Berks County Senior Citizens Council; William Willis, Executive Director of the Reading Housing Authority; and Earl Haydt, Manager of Berks TV Cable Co.

The Standing committee will also work cooperatively with the project management to recruit local and state support for maintenance of the system in Reading after the experiment comes to an end.

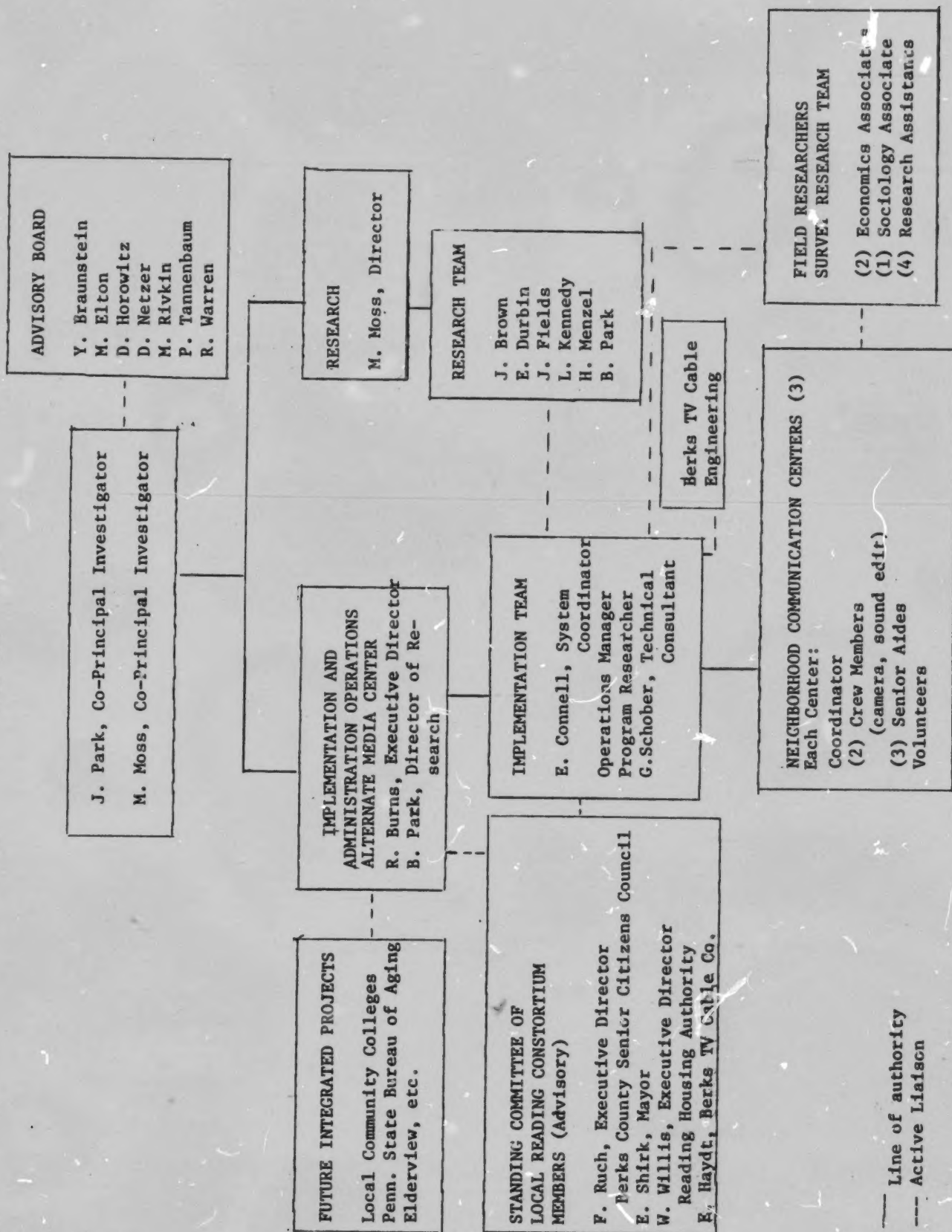
The Research Team will be under the direction of Mitchell Moss and will be organized according to the tasks set forth in the text of this proposal. The pre- and post-surveys will be carried out by National Analysts, Inc., working under the direction of the Research Team. A field staff, consisting of research associates and research assistants, each working under a member of the Research Team, will be responsible for pre-testing the questionnaires, conducting open-ended interviews, and gathering data from public agencies and citizens' organizations.

The Evaluation of the Effectiveness of Service Delivery (Section 3.0) and the Cost Analysis, (Section 4.0), will be under the direction of Professor Elizabeth Durbin. Judith Fields will be responsible for the relevant execution of research tasks. The Evaluation of Social and Political Impact of the NCC System (Section 5.0) will be under the direction of Herbert Menzel and Louanne Kennedy. The analysis of the development and operation of the NCC system (Section 6.0) will be conducted by Ben Park with the assistance of Jody Brown.

The project will be administered at New York University and, for budgetary and clerical purposes, will be housed in the Alternate Medica Center of the School of the Arts.

However, since a substantial set of activities within the project will occur in Reading, Pennsylvania, it is planned that the Co-Principal Investigators, the Director of Implementation and Administration Operations, and Research and Implementation Teams will spend a major portion of their time in Reading. During the course of the project, continuing close contact between the Implementation Team and Research Team will be maintained through regular meetings to be held in Reading and in New York City. (Fig. 8.1, p.192, illustrates the organizational design of the project.)

FIG. 8.1



9.0 SKILL MIX AND COMPETENCE OF THE RESEARCH TEAM AND IMPLEMENTATION TEAM

9.1 ORGANIZATION OF THE TEAM

As outlined in Section 8.0, the project will be under the joint direction of Professor Jacqueline Park of the School of the Arts and Professor Mitchell Moss of the Graduate School of Public Administration. Professor Park will be responsible for coordinating the implementation and research; Professor Moss will direct the Research Team. A diverse set of skills in communications technology, social sciences, policy-oriented research and community uses of cable television systems are represented in the staff of the project.

9.2 THE IMPLEMENTATION TEAM

The Alternate Media Center staff and consultants will be responsible for implementation. This includes setting up Neighborhood Communications Centers, operation and development of the system, and liaison with the local arm of the Reading Consortium and the Research Team.

In 1971, the Alternate Media Center was established in the School of the Arts to explore the skills, technology, constraints and commitments which would affect the use of cable

TV channels by local citizens and groups. That year, more than half the programs appearing on public access channels in New York City were produced by people trained at AMC, using AMC-maintained portable videotape equipment.

Similar workshops have been developed by AMC in numerous cities, including: Reading, Pa.; Orlando, Florida (with Orange Cablevision-ATC); Cape May, New Jersey (with Teleprompter); Bakersfield, California (with Warner Communications); DeKalb, Illinois (with Warner); New York City (with Community Board 12) and New York City (with the Public Access Department of Manhattan Cable). AMC has published two annual catalogues describing the activities and programs in the workshops and has written and published a two-volume handbook and guide for developing community workshops, training citizens, maintaining equipment, and dealing with contingencies, The Access Workbook. AMC also published a major study of interactive television, An Introduction to Telemedicine: Interactive Television for Delivery of Health Services.

Jacqueline Park, Co-Principal Investigator, is an Associate Professor at NYU School of the Arts. She initiated the School of the Arts' course in the use of portable video equipment. She also originated a media internship program for the school, in cooperation with community agencies.

In conjunction with Red Burns and Robert Fina of Kutztown State College, she designed and imolemented the "Instructional Television for Experimental Learning" course given at Kutztown State College. Ms. Park is editor of and contributor to The Access Workbook. She brings to the project some twenty-five years of experience in the writing and production of audio-visual materials for educational and public information purposes, many of them commissioned by various information arms of the Canadian government.

Red Burns, Director of Implementation, has organized and designed innovative models for community use of cable television. As co-founder and Executive Director of the Alternate Media Center she has worked with cable companies to establish public access workshops in several cable systems around the country. She initiated and teaches a new course in Community Information Systems at NYU School of the Arts.

Eileen Connell has organized and directed public access workshops in DeKalb, Illinois and Bakersfield, California. She has been involved in community organizing, training of personnel and ongoing consultancies. She has implemented innovations in cable programming, notably use of the telephone for simulated two-way communications, and the creation of programming designed to stimulate citizen participation in

government. Ms. Connell will supervise coordinators and crews in Reading, Pa.

Ben Park has done an extensive study on the uses of interactive television for health services, An Introduction To Telemedicine: Interactive Television for the Delivery of Health Services. His contributions in the emerging field of interactive television include scholarly papers and consultancies related to the use of media by the elderly, social implications of interactive TV, and methodologies for evaluating interactive communication behaviors. Prior to joining the Alternate Media Center, Mr. Park had been supervising producer for United Nations Television; Director of Public Affairs for the National Broadcasting Company; and Director of Programming for the Network for Continuing Medical Education.

Gary W. Schober, Technical Consultant, designed the first pay television system for hotels and motels in June 1971. He is a senior partner in Berkely Varitronics Systems and is an adjunct member at the International Continuing Medical Education Institute.

Rudy Bretz, technical consultant with RAND Corporation since 1968, has many years of experience in projects involving study and analysis, future planning, projection and development

of the uses of telecommunications for education and training.

He has recently completed an evaluation and study of

Two-way Teleconferencing for Government: The MRC System.

Mr. Bretz has been a pioneer in telecommunications since 1939.

9.3 THE RESEARCH TEAM

The research team has extensive experience in the design and execution of interdisciplinary research; its members have all been involved in previous research related either to the provision of public services or with the introduction of technology into local communities. The senior social science investigators are all present members of the faculty of New York University and have worked closely together in the first and second phases of this study.

Mitchell L. Moss, Assistant Professor of Planning and Public Administration, will serve as the Co-Principal Investigator and Director of Research for the project. In addition, he will supervise the studies of the impact of the Neighborhood Communication Centers on public agencies and private organizations. Professor Moss was previously associated with the Center for Urban Affairs of the University of Southern California. He has been involved in research on the role of state and local governments in the administration of

federal programs and has written on the potential impact of cable television on urban political processes. Professor Moss teaches a course in technological change and urban policy in the Graduate School of Public Administration.

Elizabeth Durbin is an Associate Professor of Economics in the Graduate School of Public Administration and will supervise the economic evaluation of the Neighborhood Communication Centers. Professor Durbin has been a consultant for the New York RAND Institute and served as Staff Director of the Task Force on Income Maintenance of the National Assembly for Social Policy and Development. She was formerly the Director of the Metropolitan Studies Program at New York University and teaches in the area of urban welfare economics and manpower policy. Professor Durbin has also worked with the City of New York's Human Resources Administration and has written for that municipal agency reports dealing with public assistance and the labor market.

Herbert Menzel, Professor of Sociology at New York University, will supervise the survey research activities and will direct the research concerned with the impact of the NCCs on the community and social organization of the elderly. Professor Menzel has been associated with the Bureau of Applied Social Research at Columbia University and has served as a consultant to the National Institute of Education

and to Rehabilitation International. He has published several works on the diffusion of innovation, and in the area of communications processes in large-scale organizations. Professor Menzel teaches courses in research design, quantitative methodology, and innovation and social structure.

Ms. Louanne Kennedy, Research Scientist, is responsible for the evaluation of the impact of the NCC system on the senior citizens and community organizations of Reading. She has previously been engaged in research on blood-banking in American communities and has a specific professional interest in research methods and community studies.

Ms. Judith Fields, Research Scientist, will be involved in the evaluation of services developed through the interactive system. Ms. Fields has had extensive experience working in social service agencies and has also been engaged in research concerning poverty in urban areas. Ms. Fields has a Master's degree in Urban Planning and is completing doctoral requirements in Economics.

Ms. Jody Brown, Assistant Research Scientist, will be engaged in the study of communication processes within the NCC system. She has recently been involved in the evaluation of the Metropolitan Regional Council interactive system supported by the National Science Foundation.

9.4 THE ADVISORY BOARD

The Advisory Board will provide regular feedback to the project staff on the design of the implementation and the implications of the research findings. The advisory team brings together a diversity of skills in cable television, social sciences and social service delivery. The members of the board will meet on an informal basis during the course of the project and also will have full board meetings at regular intervals. Yale Braunstein, Assistant Professor of Economics at New York University, has done extensive research in the field of economics of information. Martin Elton has been associated with the Communications Studies Group of University College, London and has been engaged in a variety of activities concerning interactive telecommunications. David Horowitz is Executive Vice President of Warner Communications. Dick Netzer, Dean of the Graduate School of Public Administration, will serve as chairman of the Advisory Board; Dean Netzer has written articles and books in the areas of public finance and urban public policy. Monroe Rifkin is President of American Television and Communications Corporation. Percy Tannenbaum, Professor at the Graduate School of Public Policy, University of California, Berkeley, is currently doing research concerning information referral services for the elderly. Robert Warren, Professor in the Division of Urban Affairs, University of Delaware, has

written articles concerning the relationship of communications technology to local government.

10.0 DISSEMINATION OF RESEARCH

The output of this study will be disseminated to potential beneficiaries and users through a series of papers and reports and through two conferences to be held during the course of the project. The first conference is to be held in January, 1977, in Reading, Pennsylvania, and will provide an opportunity to demonstrate the working of the Neighborhood Communication System to public and private officials concerned with the use of interactive cable television. A second conference will be held in New York City in September, 1977, just prior to the termination of the project, to present the research findings to the professional and academic community.

The primary form of dissemination will be through written publications, in order to transmit knowledge of the system's design, operation, and performance to a wide range of user groups, as discussed in Section 10.1, below. Two major publications are to be for general circulation. One of these, a handbook on how to set up such neighborhood communication systems, will serve as an overall guide to the design and implementation of neighborhood communication centers. Another, by integrating findings of the research team will describe and analyze the impact of the Neighborhood Communication Centers. In addition, the specific findings of the evaluation

studies will be published in separate technical reports. (The research findings of the project will also be prepared for publication in professional journals and monographs.) During the course of the project, interim working papers will be published which present the preliminary findings of the research.

Selected programming on the system will be videotaped for evaluation purposes. Many tapes will be recycled as the project develops. However, tapes of particular interest will be available for distribution to cable systems, social service delivery organizations and senior citizens' groups across the nation. These tapes will be stored temporarily in the circulating tape library at the Alternate Media Center, to await transfer to the new media center at N.Y.U.'s Bobst Library.

10.1 UTILIZATION OF RESEARCH RESULTS

Beneficiaries and users of the results of this research project will include:

- (1) Decision-makers at the federal, state and local level with responsibility for formulating public policies for cable television.
- (2) Private firms and other organizations who are concerned with utilizing cable television systems for programming to special audiences and groups.

- (3) Officials in public and quasi-public agencies who plan and administer social service programs.
- (4) Residents of urban communities, especially the elderly, whose ability to participate in public decision-making processes, and to utilize social services will be affected by two-way interactive cable television.
- (5) Scholars and teachers who can utilize the theoretical and empirical knowledge gained in new research and education programs.

11.0 IMPLEMENTATION: PROGRESS REPORT*

As of September 1, 1975, a number of implementation tasks have been accomplished.

Terminal and head-end equipment for the Neighborhood Communication Center (NCC) system has been purchased, tested, and inventoried. On-site headquarters for the project has been established and staffed at the Berks TV Cable Co.

On June 16, 1975, the three NCC coordinators were employed and began their training. They had become sufficiently qualified to supervise the training of the technical aides who came on staff July 28, 1975. Details of the training curriculum will be given in the first technical report on the project which will be submitted by February 1, 1977.

The Centers themselves have been the subject of detailed research and discussion. In designing each environment, a number of factors were taken into consideration, most notably:

*For a detailed discussion of the implementation design, see: Experiment in Urban Telecommunications, Phase II Solicitation, 74-8; pp. 4 - 65.

accessibility, acoustics, lighting, and lenses. The procedure followed in selecting accessories and furnishings was to assess the maximum utility in each case, and to balance these factors against budgetary limitations and the interdependence of environmental components.

It is important to realize that these environments are not studios, neither are they living rooms or meeting rooms; nor indeed are they separate spaces. Rather, they should be conceived of as one contiguous space which has been created by an electronic interconnect.

The conceptual implications of this space have been examined and re-examined in an effort to furnish and equip each center for maximum interactive potential. This goal precludes the use of such equipment as studio lighting, which although effective in producing good, clear pictures, is at the same time harsh, offensive, and disquieting to on-camera participants. Standard studio multi-camera switching (from wide angle shots to close-ups), which gives one-way television its visual variety, is disorienting in the two-way situation. For, in the two-way interactive mode, participants in discrete physical spaces are actually interacting in a single electronic space. Therefore, the participants want to see each other head-on and not from a side angle which would be

projected if conventional one-way switching techniques were employed.

The simulated interconnect has proved to be a most useful device in resolving some of these problems. In early August a simulated system was set up in Reading for the purpose of experimentation and training. Space was made available to the project by the Berks TV Cable Co. in three locations: St. Joseph's Hospital, the Governor Mifflin School, and the cable company's studio. Each of these locations simulated a neighborhood communication center. Rudy Bretz, who is acting as a communications consultant to the project, was present for the first week of testing. With the current project staff simulating the roles of participants and operating the cameras, daily interactive sessions took the form of presentations, question-and-answer periods, and open discussions which are some of the formats envisioned for the actual system.

The simulation was so successful that these sessions were continued for six weeks. This extended period of simulated operation coincided with a series of planning and decision-making sessions which were being conducted by the implementation team, enabling the sessions to be held via interactive television rather than face-to-face. In addition, selected

portions of the training curriculum for the technical aides were conducted on the simulated system as well. The results indicated clearly that the system is highly effective in performing these training, discussion, and decision-making functions.

At the end of the simulated experiments, specific decisions were made about camera placement and switching, choice of lenses, and selection and placement of microphones. Other decisions were postponed for further experimentation with some of the technical aspects of the interconnect itself in order to assure the "best" picture. Certain provisional decisions were made about queuing and gatekeeping procedures which, it is felt, must be re-examined when the actual participants are able to use the real system. This work will be done when the NCCs are opened for trials and testing after October 1 and will be completed by the formal opening of the system on January 1, 1976.

By a fortuitous coincidence, the Pennsylvania Senate Subcommittee on Aging and Youth held a full-day public hearing on September 4 which coincided with the advanced training of implementation personnel for the project. The hearings were carried live on the Reading cable system as a joint venture of the Berks TV Cable Co. and the NYU - Reading Consortium, with consortium staff responsible for all pro-

duction and the cable company responsible for transmission. Temporary viewing centers were set up at nine neighborhood locations including two of the three sites slated as NCCs for the project.

Although the telecast of the hearing was not interactive, it was transmitted in a decentralized pattern similar to that planned for this project. In that sense, the day-long telecast proved to be an excellent vehicle for the introduction of the decentralized potential of cable technology to the implementation staff, the elderly, and the service agencies as well.

The state senators and representatives who were on the panel responded most positively to the system. This reaction is reflected in the request, made by the Chairman, Senator Michael O'Pake, that the videotape of the day's hearings be replayed on the Berks TV Cable Co. system. Random checks of viewing centers revealed a tendency on the part of the viewers to discuss the issues that were raised at the hearings, among themselves, within the centers. The implications of this behavior for future interactive participation are most encouraging.

11.1 DEVELOPMENT OF LONG-TERM USERS FOR THE SYSTEM

Along with the efforts described above toward implementation of the experimental project, there have been a number of steps initiated to extend the life of the system beyond the thirty-month experimental period.

As general policy, the system will be made available in off-hours to potential users other than the agencies and the city government. Negotiations are currently underway with the Reading Area Community College which has expressed an interest in using the interactive system to conduct continuing education courses for the elderly. Kutztown State College, which is connected by a microwave relay to the Berks TV Cable Co.'s system, is another potential client in the same category.

The Hawthorne Convalescent Home for the Aged has requested reception of programming on a one-way basis. At the outset, they will simply purchase a converter to enable them to receive programming and interact by telephone. However, they are also interested in using the system for interactive training and education between nursing homes.

In all such cases, the potential client will be obliged to

provide programs, staff, training, and hardware. The Consortium will provide the transport system.

Interest in the system has also been communicated from the private sector, specifically Polymusic and Reuters. A determination of their uses for the system is forthcoming.

As for the current users of the system -- the local agencies and municipal bodies -- it is predicted that familiarity with the system will spawn ideas for future uses. If they are realistically to consider extending their participation beyond the thirty-month experimental period, they need an estimate of the cost. The research team is planning to provide rough cost estimates by the summer of 1976.

The Berks TV Cable Co. is, of course, interested in expanded uses for their system and has indicated readiness to cooperate in every way possible toward that aim.

12.0 PROJECT CALENDAR

STAGE I (6 Months) Jan. 1 - June 30, 1976

1.0 Implementation

Interactive Programming

- 1.1 Continuous programming, five days a week, produced from the Neighborhood Communication Centers.
- 1.2 Development and facilitation of new programming concepts.
- 1.3 Experimentation in use of the system by potential other clients when system is otherwise unoccupied.

2.0 Evaluation of Public Sector Services Via Interactive Cable

- 2.1 First cycle of programming on services provided through NCC System for Outreach Experiments, Information Experiments in Social Service Agencies, and Service Delivery Experiments in Multi-service Setting
- 2.2 Refine and code NCC input teaching mechanisms (Logs) as Programming begins.
- 2.3 Initiate on-site data collection of responses to programming at agencies, NCCs and BCSSC.
- 2.4 Prepare report on cost methods and cost benefit techniques for NCC System

3.0 Political and Social Impacts of the NCC System

Coding

- 3.1 Build code, and code 600 protocols. Type and duplicate code books.
- 3.2 March - April 1976 - Key punching
Key punch, verify, and card-clean. Estimated number of cards: 4,500.
- 3.3 April - June 1976 - Base Line Tabulations
Scale verification, index constructions, data transformations. Base line tabulations and write up.
- 3.4 Wave I Survey Data Analysis
 - 3.4.1 Analyze and write up Wave I information interviews.
 - 3.4.2 Analyze and write up Wave I interaction observations.
 - 3.4.3 Prepare interim report of findings related to participation in political and social processes and degrees of satisfaction with public services.
- 3.5 Monitoring of intervening events in Reading community. Qualitative and spot studies as indicated by emerging events.
- 3.6 Observe teleconferences and meetings at Neighborhood Communication Centers to determine type of issues raised through neighborhood communications centers. (January - June).
- 3.7 Analyze relationship of range of issues raised at NCCs with findings from survey instrument.
- 3.8 Analyze type of political processes occurring through NCC, i.e., bargaining, negotiation, consultation, information transmission processes. (May - June).
- 3.9 Observe responses from public and private organizations to NCCs. (June).

4.0 Communications Research

- 4.1 Commence studies research in Sections 6.1 and 6.2. (6.1 Near-term effects: Evolutionary Optimization and Association of Communication Events with Measurable impacts; 6.2 Study of Longer Term and Unanticipated Effects.)
- 4.2 Conduct regular meetings of Monitor Panels.
- 4.3 Maintain liaison with other researchers to brief them on program developments and action research changes. Conference with Advisory Board to evaluate progress of project/June 1976.

STAGE II (2 Months) July 1 - August 31, 1976

5.0 Implementation

- 5.1 Maintain channel using previous programming.
- 5.2 Reconsider and redesign programming in conjunction with research team, participants and consultants.
- 5.3 Staff leave time.
- 5.4 Equipment overhaul.

6.0 Evaluation of Public Sector Services Via Interactive NCC System

- 6.1 Collate, code and analyze NCC Input Data from 1st cycle of Programming. Revise and refine Logs for 2nd cycle.

- 6.2 Collate, code and analyze Program Response Data from NCCs, Horizon Center, and Agencies from 1st cycle. Revise Data Collection Mechanisms.
- 6.3 Calculation of Replication Costs for NCC System. Start-up costs and 1st cycle of programming.

7.0 Political and Social Impacts of NCC System

- 7.1 Examination and evaluation of research findings.
- 7.2 Prepare interim report summarizing the role of the NCC system in elderly participation in political and social processes.
- 7.3 Analyze responses of public and private sector to NCCs system.
- 7.4 Monitoring of intervening events in Reading community. Spot studies as indicated.

8.0 Communications Research

- 8.1 Review studies to date. Revise hypotheses, adjust study parameters, if needed.
- 8.2 Assist in revising and refining logs (see 6.1, this section).
- 8.3 Review programming changes with other researchers.
- 8.4 Assist public sector researchers in defining replication parameters. Prepare Interim Report on evolutionary optimization recommendations and implementation changes.

STAGE III (6 Months) September 1, 1976 - March 31, 1977

9.0 Implementation

Interactive Programming.

- 9.1 Continuous programming five days a week incorporating changes suggested during Stage II.
- 9.2 Phasing out of paid technical staff.
- 9.3 Assist potential other clients to define on-going use of the system.

Conference with external public officials to demonstrate NCC System, Jan. 1977.

10.0 Evaluation of Public Sector Services Via Interactive NCC System

- 10.1 Second cycle of programming on services provided through NCC System.
- 10.2 Initiate tracking NCC Inputs for 2nd cycle of programming.
- 10.3 Resume On-Site Data Collection on programming responses at Agencies, Horizon Center, NCCs.

11.0 Political and Social Impacts on NCC System

- 11.1 Revisions of interviewing instruments. New pilot interviews and further revisions. Pre-test and pre-coding in consultation with interviewing sub-contractor.

- 11.2 (September 1976) - Sample updating. Print new interview guides.
(October 1976) - Mailing.
- 11.3 (October 1976) - Printing.
- 11.4 Mail letters of introduction to designated respondents in private dwelling areas.
- 11.5 (October 15 - December 15, 1976) - Wave II interviews.
- 11.6 (January/February 1977) - Coding
 - 11.6.1 Update code and code books.
 - 11.6.2 Code 600 protocols.
- 11.7 Monitoring of intervening events in Reading Community. Qualitative and spot studies as indicated by emerging events.
- 11.8 Observe NCC proceedings to determine pattern of political behavior emerging in meetings and teleconferences. (September - March)..
- 11.9 Analyze responses from public and private sector organizations attributable to NCC. (January - March).

12.0 Communications Research

- 12.1 Continue studies under 6.1 and 6.2 of Research Proposal.
- 12.2 Begin preliminary draft of study under 6.3 of Research Proposal (Chronicle of the Experiment).
- 12.3 Continue Meetings of Monitor Panels.

STAGE IV (8 Months) April - October 31, 1977

13.0 Evaluation of Public Sector Services Via Interactive
NCC System

- 13.1 Code and analyze data from Wave II Survey.
- 13.2 Prepare final report on cost-effectiveness of NCC System for the delivery of public services.
- 13.3 Prepare final report on overall analysis of costs and benefits of NCC System.
- 13.4 Prepare Report on Economic Implications of NCC System for Replication and Extension of NCC System.

14.0 Political and Social Impacts of NCC System

- 14.1 Key punch, verify and card-clean. Estimated number of cards: 4,500.
- 14.2 Tabulate trends. Basic tabulations of Wave II data. Presentation for comparison with Wave I data for use of other Component Studies.
- 14.3 Interaction Data Trends
 - 14.3.1 Analyze and write up Wave II information interviews; determine trends since Wave I.
 - 14.3.2 Analyze and write up Wave II interaction observations; determine trends since Wave I.
- 14.4 Conduct interviews with public and private officials to determine impact of the NCC System on their programs, priorities and policies. (April 1 - May).

- 14.5 Collect data on organizational arrangements, budget allocations, participation of elderly in decision-making, to determine amount and degree of changes made since inception of NCC. (April 1 - May).
- 14.6 Analyze data from Wave I and Wave II to determine impact of the NCC on involvement in political and social processes, degree of satisfaction with public services.
- 14.7 Compare findings of interview with public and private officials, before and after NCC System was initiated. (June - July).

15.0 Communications Research

- 15.1 Analyze studies under 6.1, 6.2, 6.3 of Research Proposal
- 15.2 Report findings in studies 6.1 and 6.2.
- 15.3 Write Chronicle, 6.3.

Conference to Disseminate Findings, Sept. 1977.

13.0 BUDGET

This section contains a summary budget, followed by a breakdown into the following time periods:

- 1) January 1, 1976 - August 31, 1976
- 2) September 1, 1976 - August 31, 1977
- 3) September 1, 1977 - October 31, 1977.

RANN PROPOSAL BUDGET

Budget Summary - Academic Institutions
Amendment to NSF Grant #APR 75-14311 - 1/1/76-10/31/77

A. SALARIES AND WAGES (indicate time to be devoted to this project)

	Person-months of effort	Requested From NSF	Total Project Costs
1. Professional Personnel			
a. 2 Principal Investigator	24.00	53,069	53,069
b. 3 Faculty Associates and Consultants	19.16	50,578	50,578
c. 5 Research Associates - Postdoctoral	58.50	93,136	93,136
d. 1 Non-Faculty Associates	16.00	21,632	21,632
e. 4 Graduate Students	61.00	22,194	28,157
Subtotal	178.66	240,609	246,572
2. Other Personnel (Non-Faculty)			
a. 2 Secretarial-Clerical.....		28,228	28,228
b. 22 Technical, Shop, and Other (Specify).....		116,874	116,874
Total		385,711	391,674
B. STAFF BENEFITS (If Charged as Direct Costs)..... 16%		61,713	62,667
C. TOTAL SALARIES, WAGES, AND STAFF BENEFITS (A & B).....		447,424	454,341
D. PERMANENT EQUIPMENT (Fully Itemized).....		NA	NA
E. EXPENDABLE EQUIPMENT AND SUPPLIES (Fully Itemized).....		15,370	20,104
F. TRAVEL (Fully Itemized)			
1. Domestic.....		62,257	82,440
2. Foreign.....		NA	NA
G. PUBLICATION COSTS.....		18,000	22,000
H. COMPUTER COSTS (If Charged as Direct Costs).....		11,829	12,429
I. OTHER COSTS (e.g., Subcontracts, etc. - Itemized).....		132,322	139,142
J. TOTAL DIRECT COSTS (C through I).....		687,202	730,456
K. INDIRECT COSTS 72.00* 55,518			
37.02** % of 336,156		161,509	164,422
L. TOTAL COSTS (J plus K).....		848,711	894,878

\$46,167 - the difference between the National Science Foundation request and the total project cost, represents carry-over funds from previous National Science Foundation funding for this project.

* on-campus
** off-campus

NYU-READING CONSORTIUM

8 months

1/1/76-8/31/76

Budget Explanation

	Person Months	Time Commitment	Base Salary	Actual Cost	Total Project Cost	Carryover Funds	Total Requested From NSF
A. Salaries and Wages							
1. Senior Personnel							
a. (Co) Principal Investigators							
Prof. Jacqueline Park	4-1/2	1/2 x 5/9 2/9 summer	20,652	5,736 (90**, 10*) 4,588 (90**, 10*)			
Prof. Mitchell Moss	4-1/2	1/2 x 5/9 2/9 summer	17,000	4,721 (50**, 50*) 3,777 (75**, 25*)			
b. Faculty Associates							
Prof. Red Burns	3-1/2	1/2 x 7/11	28,134	8,952 (90**, 10*)			
Prof. Herbert Menzel	2	2/9 summer	27,350	6,077 (90**, 10*)			
Prof. Elizabeth Durbin	3-2/3	1/3 x 5/9 2/9 summer	19,000	3,518 (90**, 10*) 4,222 (90**, 10*)			
2. Other Personnel (non-faculty)							
a. Research Associates							
Ben Park, Sr. Rsch. Sci.	3-1/2	1/2 x 7/11	27,000	8,591 (90**, 10*)			
Louanne Kennedy, Rsch. Sci.	7	1 x 7/11	16,000	10,182 (90**, 10*)			
Judith Fields, Rsch. Sci.	7	1 x 7/11	16,000	10,182 (90**, 10*)			
Jody Brown, Asst. Rsch. Sci.	3-1/2	1/2 x 7/11	12,000	3,818 (90**, 10*)			
Asst. Rsch. Sci.	4	1/2 x 8/11	10,000	3,636 (90**, 10*)			
b. Non-faculty Professionals							
Eileen Connell, System Coord.	8	1 x 8/12	15,600	10,400 (100**)			
c. Graduate Students							
Research Assistant		1 x 7/11	4,800	3,054 (90**, 10*)			
Research Assistant		1 x 7/11	4,800	3,054 (90**, 10*)			
Research Assistant		1 x 5/11	4,800	2,182 (90**, 10*)			
Research Assistant			4,800	(90**, 10*)			
d. None							
e. Secretarial-Clerical							
Wendy Cohen		1/2 x 8/12	9,880	3,260 (10**, 90*)			
Edith Springer		1 x 8/12	9,620	6,413 (10**, 90*)			

NYU-READING CONSORTIUM

8 months

1/1/76-8/31/76

f. Technical, Shop and Other

(Reading Payroll)

3 Neighborhood Communications Coordinators

35 weeks @ \$159

1 Production Assistant/Videotape Librarian

35 weeks @ \$125

Technical Crew: 3 full-time: 35 weeks @ \$125

3 part-time: 35 weeks @ \$2.20 per hr.

15 hrs. per week

Production Researchers:

1 full-time: 35 weeks @ \$150

1 part-time: 35 weeks @ \$75

Secretary: 35 weeks @ \$122

9 Senior Aides: 35 weeks @ \$2.20 per hr. - 21 hrs./week

22
23
24

TOTAL SALARIES AND WAGES

170,721

B. Staff Benefits (16% salaries)

27,315

C. TOTAL SALARIES, WAGES AND STAFF BENEFITS

198,036

6,017

191,119

D. None

E. Expendable Equipment and Supplies

a. Video and audio tape, slides and stills (stock and processing)

11,911

b. Supplies, Xerox, computer tape, IBM cards and survey letters, graphics supplies

2,400

c. Charts, maps, technical graphs

1,000

TOTAL EXPENDABLE EQUIPMENT

15,311

4,734

10,577

F. Travel

1. Domestic

a. Staff

J. Park - 10 trips

73 days @ \$36 per diem

M. Moss - 3 trips @ \$60

55 days @ \$36 per diem

R. Burns - 10 trips @ \$60

63 days @ \$36 per diem

NC

2,628

2,160

2,868

Actual Cost	Total Project Cost	Carryover Funds	Total Requested From NSF
16,695**			
4,375**			
13,125**			
3,465**			
5,250**			
2,625**			
4,270**			
14,553**			
	170,721		
	27,315		
	198,036	6,017	191,119
	15,311	4,734	10,577

NYU-READING CONSORTIUM

8 months

1/1/76-8/31/76

	Actual Cost	Total Project Cost	Carryover Funds	Total Requested From NSF
H. Menzel - NC				
30 days @ \$36 per diem	1,080			
E. Durbin - NC				
55 days @ \$36 per diem	1,980			
B. Park - 5 trips @ \$60				
63 days @ \$36 per diem	2,568			
Research Staff - 15 trips @ \$60				
7 staff x 53 days @ \$36 per diem	14,256			
E. Connell - 2 trips @ \$60				
4 days @ \$36 per diem	264			
Local travel - Reading, for Reading Staff	350			
Consortium Members - NC	-			
b. Consultant Travel				
R. Bretz - 2 trips LA/Reading @ \$470				
10 days @ \$36 per diem	1,300			
G. Schober - 23 trips @ \$45				
65 days @ \$36 per diem	3,375			
Human Dynamics Specialist - 2 trips @ \$20				
4 days @ \$36 per diem	184			
Advisory Board - 2 trips LA/NY @ \$470				
10 days @ \$44 per diem	1,380			
Monitoring Panel - 6 persons, 28 sessions @ \$15 per person, per session	2,520			
TOTAL TRAVEL		36,913	20,183	16,730
G. Publication and Dissemination Costs				
Interim, Technical Reports, Slide Presentations, Conferences, Final Report	4,000			
TOTAL PUBLICATION COST		4,000	4,000	-
H. Computer Costs				
Coding and keypunching	2,495			
15.4 hours @ \$210	3,234			
TOTAL COMPUTER COST		5,729	600	5,129

224
234

Actual Cost	Total Project Cost	Carryover Funds	Total Requested From NSF
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I. Other Costs

a. Consulting

R. Bretz - 10 days @ \$100 per day
M. Dewberry - 5 days @ \$100 per day
Editorial Consultant - 5 days @ \$100 per day
G. Schober - 65 days @ \$125 per day
Human Dynamics Specialist - 2 workshops @ \$450
Advisory Board - 10 days @ \$100 per day
Graphic Artist
Photographer
Local Informants

b. Communications

Telephone
Reading - 3 Communications Centers @ \$45 per month
Production Office @ \$150 per month
Head End: telephone @ \$61 per month
closed circuit line @ \$37 per month
New York - @ \$200 per month
Advertising and Distribution
Newspapers, Posters, Leaflets

c. Office and Office Equipment

Production Office Rental
Communications Center Rental @ \$408.33 per month
Production Office Furnishings
1 typewriter rental @ \$32 per month
Automobile rental @ \$166 per month, gas and oil (\$500)

d. Equipment Maintenance

1,000			
500			
500			
8,125			
900			
1,000			
1,000			
750			
1,700			
<u>15,475</u>			
360			
1,200			
488			
296			
1,600			
500			
<u>4,444</u>			
NC			
3,267			
256			
1,828			
<u>5,351</u>			
5,000			

NYU-READING CONSORTIUM
8 months
1/1/76-8/31/76

e. Subcontracts

Berks Cable
System Maintenance @ \$2,657 per month
Service Calls @ \$111 per month
Lost Revenue from Drops @ \$600 per month

Survey Research - National Analysts

f. Insurance

Fire and Theft, Floater - Portable Equipment

g. Relocation Costs - Systems Coordinator

TOTAL OTHER COSTS

J. TOTAL DIRECT COSTS

K. INDIRECT COSTS

*72% salaries on-campus
**37.02% salaries off-campus

TOTAL COST:

	Actual Cost	Total Project Cost	Carryover Funds	Total Requested From NSF
21,256				
888				
4,800				
26,944				
27,971				
680				
		85,865	6,820	79,045
		345,854	43,254	302,600
14,250				
55,875				
70,125				
		70,125	2,913	67,212
		415,979	46,167	369,812

Budget Explanation

Person Months		Time Commitment	Base Salary	Actual Cost	Total Project Cost	Carryover Funds	Total Requested From NSF
A. Salaries and Wages							
1. Senior Personnel							
a. (Co) Principal Investigator							
6-1/2		1/2 x 9/9 2/9 summer	22,304	11,152 (90**, 10*) 4,956 (90**, 10*)			
6-1/2		1/2 x 9/9 2/9 summer	18,360	9,180 (50**, 50*) 4,080 (75**, 25*)			
5-1/2		1/2 x 11/11 2/9 summer	30,385	15,193 (90**, 10*)			
2		2/9 summer	29,538	6,564 (90**, 10*)			
2		2/9 summer	20,520	4,560 (90**, 10*)			
b. Faculty Associates							
5-1/2		1/2 x 11/11	30,385	15,193 (90**, 10*)			
2		2/9 summer	29,538	6,564 (90**, 10*)			
2		2/9 summer	20,520	4,560 (90**, 10*)			
2. Other Personnel (non-faculty)							
a. Research Associates							
5-1/2		1/2 x 11/11	29,160	14,580 (90**, 10*)			
11		1 x 11/11	17,280	17,280 (90**, 10*)			
11		1 x 11/11	17,280	17,280 (90**, 10*)			
5		1/2 x 10/11	12,960	5,891 (90**, 10*)			
		-	-	-			
b. Non-faculty Professionals							
		1 x 7/12	16,848	9,828 (100**)			
		1/2 x 2/12		1,404 (100**)			
c. Graduate Students							
		1 x 11/11	5,184	5,184 (90**, 10*)			
		1 x 11/11	5,184	5,184 (90**, 10*)			
		1 x 9/11	5,184	4,241 (90**, 10*)			
		1 x 9/11	5,184	4,241 (90**, 10*)			
d. None							
e. Secretarial-Clerical							
		1/2 x 12/12	10,670	5,335 (10**, 90*)			
		1 x 12/12	10,390	10,390 (10**, 90*)			

9/1/76-8/31/77

26 weeks @ \$2.20 per hr. - 21 hrs./week

75 days @ \$36 per diem

TOTAL EXPENDABLE EQUIPMENT

3,793

3,000

242,485

NYU-READING CONSORTIUM

12 Months

9/1/76-8/31/77

	Actual Cost	Total Project Cost	Carryover Funds	Total Requested From NSF
R. Burns - 14 trips @ \$60 95 days @ \$36 per diem	4,260			
H. Menzel - NC 30 days @ \$36 per diem	1,080			
E. Durbin - NC 30 days @ \$36 per diem	1,080			
B. Park - 8 trips @ \$60 95 days @ \$36 per diem	3,900			
Research Staff - 25 trips @ \$60 7 staff x 70 days @ \$36 per diem	19,140			
E. Connell - 2 trips @ \$60 6 days @ \$36 per diem	336			
Local travel - Reading - for Reading Staff	500			
 b. Consultant Travel				
R. Bretz - 2 trips LA/Reading @ \$470 10 days @ \$36 per diem	1,300			
G. Schober - 23 trips @ \$45 65 days @ \$36 per diem	3,375			
Human Dynamics Specialist Advisory Board - 2 trips LA/NY @ \$470 10 days @ \$44 per diem	1,380			
Monitoring Panel - 6 persons, 26 sessions @ \$15 per person per session	2,340			
 TOTAL TRAVEL		45,291		
 G. Publication and Dissemination Costs Interim, Technical Reports, Slide Presentation, Conferences and Final Report	8,000			
 TOTAL PUBLICATION COSTS		8,000		
 H. Computer Costs Coding and Key punching 20 hrs. @ \$210	2,500 4,200			
 TOTAL COMPUTER COSTS		6,700		

NYU-READING CONSORTIUM
12 Months
9/1/76-8/31/77

I. Other Costs

a. Consulting

R. Bretz - 10 days @ \$100 per day
M. Dewberry - 5 days @ \$100 per day
Editorial Consultant - 5 days @ \$100 per day
G. Schober - 65 days @ \$125 per day
Human Dynamics Specialist
Advisory Board - 10 days @ \$100 per day
Graphic Artist
Photographer
Local Informants

b. Communications

Telephone

Reading - 3 Communications Centers @ \$45 per month
Production Office @ \$150 per month
Head End: telephone @ \$61 per month
closed circuit line @ \$37 per month
New York - @ \$200 per month
Advertising and Distribution
Newspapers, posters, leaflets.

c. Office and Office Equipment

Production Office Rental
Communications Center (New Horizon Center) Rental
\$408.33 per month
Production Office Furnishings - 1 typewriter rental @ \$32
per month
Automobile rental - \$166 per month, gas and oil (\$436)

d. Equipment Maintenance

Actual Cost	Total Project Cost	Carryover Funds	Total Requested From NSF
1,000			
500			
500			
8,125			
-			
1,000			
1,000			
750			
1,700			
14,575			
315			
1,050			
427			
259			
2,400			
300			
4,751			
NC			
2,450			
224			
1,764			
4,438			
6,380			

NYU-READING CONSORTIUM

12 Months

9/1/76-8/31/77

	Actual Cost	Total Project Cost	Carryover Funds	Total Requested From NSF
e. Subcontracts				
Berks Cable	15,942			
System Maintenance @ \$2,657 per month	666			
Service calls @ \$111 per month	3,600			
Lost revenue from drops @ \$600 per month				
	20,208			
Survey Research - National Analysts	-			
f. Insurance	-			
Fire and theft, floater - portable equipment	-			
g. Relocation costs - Systems Coordinator	350			
		50,702		
		357,091		
J. TOTAL DIRECT COSTS				
K. INDIRECT COSTS				
*72% salaries on-campus	22,603			
**37.02% salaries off-campus	65,765			
	88,368			
TOTAL COST		445,339		445,339

NYU-READING CONSORTIUM

2 Months

9/1/77-10/31/77

Budget Explanation

Person Months		Time Commitment	Base Salary	Actual Cost	Total Project Cost	Carryover Funds	Total Requested From NSF
A. Salaries and Wages							
1. Senior Personnel							
a. (Co) Principal Investigators							
1		1/2 x 2/9	24,088	2,676 (90**, 10*)			
1		1/2 x 2/9	19,829	2,203 (50**, 50*)			
b. Faculty Associates							
1/2		1/4 x 2/11	32,816	1,492 (90**, 10*)			
		-	31,901	-			
		-	22,162	-			
2. Other Personnel (Non-faculty)							
a. Research Associates							
Ben Park, Sr. Rsch. Sci.							
		1/2 x 1/11	18,662	-			
		1/2 x 1/11	18,662	848 (90**, 10*)			
		-	-	848 (90**, 10*)			
		-	-	-			
		-	-	-			
Jody Brown, Asst. Rsch. Sci.							
		-	-	-			
Asst. Rsch. Sci.							
		-	-	-			
b. Non-faculty Professionals							
Eileen Connell, Systems Coord.							
		-	-	-			
c. Graduate Students							
		1 x 2/11	5,598	1,017 (90**, 10*)			
		-	-	-			
		-	-	-			
		-	-	-			
d. None							
e. Secretarial-Clerical							
		1/2 x 2/12	11,524	960 (10**, 90*)			
		1 x 2/12	11,221	1,870 (10**, 90*)			

NYU-READING CONSORTIUM

2 months

9/1/77-10/31/77

Person Months	Time Commitment	Base Salary	Actual Cost	Total Project Cost	Carryover Funds	Total Requested From NSF
f. Technical, Shop and Other (Reading Payroll)						
	-	-	-			
TOTAL SALARIES AND WAGES						
				11,914		
B. Staff Benefits (16% salaries)				1,906		
C. TOTAL SALARIES, WAGES AND STAFF BENEFITS					13,820	
D. None						
E. Expendable Equipment and Supplies						
a. Video and audio tape, slides and stills (stock and processing)			-			
b. Supplies, Xerox, computer tape, IBM cards and survey letters, graphics supplies			-			
c. Charts, maps, technical graphs			1,000			
TOTAL EXPENDABLE EQUIPMENT						
				1,000		
F. Travel						
1. Domestic						
a. Staff						
Consortium members (4)						
1 trip @ \$60			-			
4 days @ \$44 per diem per member			236			
b. Consultant Travel			-			
TOTAL TRAVEL						
				236		
G. Publication and Dissemination Costs						
Interim, technical reports, slide presentation, conferences, and final report.			10,000			
TOTAL PUBLICATION COSTS						
				10,000		

9/1/77-10/31/77

244
234

NYU-READING CONSORTIUM
 2 Months
 9/1/77-10/31/77

K. Indirect Costs
 *72% salaries on-campus
 **37.02% salaries off-campus

Actual Cost	Total Project Cost	Carryover Funds	Total	
			Requested	From NSF
3,122				
2,807				
5,929				
	33,560			
			33,560	

TOTAL COST

APPENDIX A: SOCIAL SERVICE PROGRAMS BY AGENCY

Social Security District Office

1) Supplementary Security Income

The cash grants are determined by income eligibility and administered by Social Security but non-cash services are given by the County Board of Public Assistance. Funding is federal. Recipients include non-aged (blind and disabled) as well as needy aged persons. Uptake amongst the elderly is estimated to be fairly good at present and there are no serious delivery problems.

2) OASI

The cash benefits are determined by Social Security and administered by Social Security. This is primarily a program for the elderly (retirement and survivors benefits) but includes non-elderly beneficiaries as well. A 95% uptake rate is estimated by the agency.

3) Medicare

A federally funded health insurance program primarily for the elderly administered by Social Security. A 90% current uptake rate is estimated by Social Security.

County Board of Public Assistance

1) General Assistance

Cash grants and services are available to needy persons of any age not eligible for other programs. For the elderly this program is mainly a means of tiding them over until they become eligible for SSI and the grants are regarded as a loan to be repaid by the client. The funding is State and local county. Both the current number of elderly recipients and the estimated number of potential

eligibles is quite small.

2) Medicaid

Medicaid is the federal and state funded program for medical assistance. Although primarily targeted on low income persons and families of all ages, benefits (in the form of cash reimbursement for medical expenses as well as direct vendor payments) are also available to persons within a very wide income range who have proportionately high medical expenses. Agencies estimate a very low uptake rate and even lower actual use.

3) Food Stamps

The food stamps program involves in-kind benefits (food stamps or vouchers) which in effect permit the recipient to purchase food at greatly reduced prices. The program is income tested and available to needy persons of all ages. The program is federally funded. Current uptake by the eligible elderly is estimated by Public Ass't to be very low (around 5-10% for the eligible elderly.)

Berks County Senior Citizens Council

1) 55 Affiliated Clubs

These clubs are scattered throughout the County and are open to any elderly person regardless of income. The clubs offer a range of social and recreational activities. Funding by United Way, the County, the City and membership fees.

2) Nutrition Program

This is administered out of the BCSCC main office and comprises two programs for elderly persons. The service is free to the needy, others pay a low fee. Funding is Federal, State, and County.

Meals on Wheels

delivery of meals to bedridden or immobile elderly in their homes

Congregate Meals

offers hot meals to groups of elderly persons at three sites in Reading and two sites in the surrounding suburbs. A total of 220 persons are fed daily.

3) Horizon Center

This center to be opened in 10/75 is a replacement and extension of the present headquarters of BCSCC on Penn St. Out of this new multi-service center a wide range of programs is offered to the elderly: educational, social and recreational. Funding is provided by Berks County, the City of Reading and United Way. In addition, counseling and referral services for the elderly are carried out here by Frank Ruch and his staff. The agency does not provide any direct cash or in-kind benefits, but refers elderly persons to the appropriate agency when these are needed.

APPENDIX B

STAFF MEMORANDUM ON THE SELECTION OF A CONTROL AREA

The aim is to select an open residency area nearly comparable to the area surrounding the Horizon Center area, an area which at the same time would be remote enough from it that the likelihood of its residents' participation in the Horizon Center program (or that of one of the other NCCs) would be minimal.

The City Planning Commission has aggregated Census data for selected "Neighborhoods" in Reading. Area selection in terms of these neighborhoods seems advisable, as they are likely to be reasonably homogeneous, since the people designating them were concerned with naturally existing neighborhood areas. These data are aggregated and reported in the City Planning Commission reports on income, housing characteristics, and population characteristics, published in 1972.

The 36 block residential area surrounding the Horizon Center falls in Neighborhoods 1, 7, 8. In combining the Neighborhood data to represent this presumed "Treatment" area, data from each of these three neighborhoods were weighted by the relative share of the 36-block area which is made up of the given neighborhood. Thus data for Neighborhoods 1 and 7 were given a weight of 4, and Neighborhood 8 was given a weight of 1.

All the neighborhood profiles and data were examined in order to select a suitably matched control area. Areas 5, 9, 10, and 17 were selected as possibilities since, like the Horizon Center Treatment Area, they have a high percentage of elderly people (United Way Memo, 9/25/73), and are generally low on economic indicators.

There is a general trend in Reading for areas to become more middle class as they are farther away from the center of the city. Neighborhoods 11 and 22 were found after preliminary inspection to be considerably higher on income characteristics than the remaining districts.

Neighborhood 5 had to be eliminated since it contrasted with the Treatment Area in its high concentration of non-white residents, the high proportion of young residents, and the high proportion of recent arrivals.

The two most likely candidates for the control areas were thus Neighborhoods 9 - 10 (considered as a unit) and 17: the differences between these areas seem marginal, while there are differences between these and the Horizon area in some respects (See Table B-1 page 243.)

Researchers canvassed each of the areas block by block, and collected additional data on the accessibility of each of these areas to the Horizon Center area by bus.

Neighborhoods 9 - 10 most resemble the area surrounding the Horizon Center, especially in housing characteristics, but its proximity to the downtown area via bus route straight down Tenth Street seems a problem.

Neighborhood 17 gives a different appearance from the areas on the eastern side of town. The area is more exclusively residential. There are few of the stores, factories, and other commercial buildings which are interspersed with residences on the other side of town. The area also changes from south to north. The lower fringes (closer to the center of the city) resemble the center city more -- some commercial use, some non-white residents. The bigger houses with porches and tiny lawns and flowers are "farther up the hill". There is also a line of very stately buildings along Centre Avenue, but these appeared by and large to be presently operated as doctors' offices, funeral homes, etc. Closer inspection of some of the homes revealed that many are operated as two-family dwellings (with two or even three door bells). While Neighborhood 17 seems slightly more affluent than the downtown area surrounding the Horizon Center, this disadvantage might be traded off by its remoteness from the experimental

centers. Examination of the bus routes revealed that [in the downtown area] they do not really leave one off very close to the Horizon Center.

Table B-1
Treatment Neighborhoods and
Possible Control Neighborhoods for Dispersed Residences

Characteristics	New Horizon Center Area	Possible Control Neighborhoods (Reading Planning Commission Neighborhood Number)		
	<u>1-7-8</u>	<u>9-10</u>	<u>17</u>	<u>5</u>
Weights	4-4-1	1-1	-	-
% 65 years +	20.0	15.2	17.0	10.9
% Foreign Stock	1 - 20.7% 7-8-n.m.	"low"	"not atypical"	"lowest in city"
% Nonwhite	4.9	.6	1.7	33.
Income:				
Average Income per household	\$6406.	\$8028.	\$8387.	\$7860.
% below poverty line	9.7	5.2	3.3	16.5
% with income 3 or more times poverty level	39.2	45.6	48.9	25.5
Housing:				
% overcrowded units	2.6	2.0	1.6	6.0
% units requiring major repair or delapidated	39.0	47.2	29.7	37.1
Renters as % of all units (occ)	56.8	30.	37.	44.0
"Stable"/"Changing"	1 & 7 changing 8 n.m.	Stable 22.1% moved to units '49 or earlier	n.m.	"rapidly changing"
Ed'l attainment -	not reported for neighborhoods			
Comments on Characteristics of Neighborhoods	#8"as close to an average neighborhood as one could find". Buffer to more af- fluent outer areas; closer to outer than to #7 #7 - buffer also	#10-pre- dominantly middle class #9-close to average for city; like inner city (#1-8) in housing characteris- tics	no out- standing h.h. char- acteristics; nor atypical racial-ethnic composition	a very young area, large families, spouses absent; lowest % of older people in city
* Estimates for an area around NHC, estimated to yield 125 elderly households. Figures are compounded of those for Neighborhoods 1, 7, and 8, weighted 4, 4, and 1, respective- ly, in approx. proportion to the number of blocks in each required to constitute the 36-block area.				
N occupied households ²	1644	1649	1916	1475
N people ²	3759	4564	5015	4684

1 Comments from Neighborhood Profiles

2 Estimate for area involved

3 Source: Census data aggregated by neighborhood
City of Reading Planning Commission

APPENDIX C

Research Instruments, Section 6.0

Communication Processes Within the NCC System

TABLE I

6.4.1.1 Session Data Categories (Recorded by NCC Coordinators and Senior Aides. Senior Aides record 1, 14b, 15a-d. NCC Coordinators record everything but 14b.)

1. Location _____
2. Session # (Serial) _____
3. One-shot session or part of series (Note series code)

4. Subject Matter: (Specific name _____)
Check:
 - 4a. Economic _____
 - 4b. Housing _____
 - 4c. Neighborhood Environment _____
 - 4d. Human Development _____
 - 4d.1. Education/Training _____
 - 4d.2. Self-awareness _____
 - 4d.3. Health/Nutrition _____
 - 4e. Entertainment _____
 - 4f. Recreation _____
 - 4g. Other (Specify) _____

TABLE I., cont'd

5. Chairing Location

5a. Kennedy _____

5b. New Horizon _____

5c. Hensler _____

5d. Other (Specify) _____

6. Number of Locations _____

7. Mode

7a. Video/audio 2-way _____

7b. Video 1-way/audio 2-way _____

7c. Audio 2-way _____

7d. Number of cameras used, this center,
by type studio _____
portable _____

8. Type

8a. Formal _____

8b. Informal _____

9. Session Style

9a. Presentation: (Check all that apply)

(How was the
subject intro-
duced and
defined?)

- 1) Once, at beginning _____
- 2) Spaced, intervening
discussion _____
- 3) Single Presenter _____
- 4) Panel (Number of) _____
- 5) Talk _____
- 6) Videotape(s) _____
- 7) Graphics _____
- 8) Photos _____
- 9) Illustrations (Art) _____
- 10) 3-D Materials (Specify
types) _____
- 11) Music _____
- 12) Sound effects _____
- 13) Other (Specify) _____

TABLE I., cont'd

9b. Participation : (Check all that apply)

(How did non-presenters participate?)

- 1) Question and answer _____
- 2) Comments by participants _____
- 3) Conversation _____
- 4) Physical activity by
Participants _____
- 5) Intra-NCC interaction (non-
chairing locations _____
(or)
- 6) Telephone interactions
(chairing locations only)
Q and A _____
Comment _____

9c. Metaphor: (Check one as dominant)

(How did participants view the session?)

- 1) Meeting _____
- 2) Class _____
- 3) Study Group _____
- 4) Discussion Group _____
- 5) Kaffeeklatsch _____
- 6) Contest (Game or Quiz) _____
- 7) Entertainment _____
- 8) Rote Instruction _____
- 9) Physical Activity _____
- 10) Other ((specify) _____

10. Session Function: (Check from one to three as dominant)

(What was the purpose of the session?)

- 10a. Telemeeting (Citizen-Government interaction) _____
- 10b. Information-giving _____
- 10c. Information-seeking _____
- 10d. Entertainment _____
- 10e. Contest (Game or Quiz) _____
- 10f. Planning _____

TABLE I., cont'd

- 10g. Problem Solving _____
- 10h. Physical Activity(e.g. Exercises) _____
- 10i. Filling out forms _____
- 10j. Self-training* _____
- 10k. Self-education* _____
- 10l. Negotiation _____
- 10m. Consensus-seeking _____
- 10n. Other (specify) _____
11. Interaction Behaviors (Your opinion)
- 11a. Chairperson/presenters (Check one)
- _____ encouraged interaction
- _____ neither encouraged nor discouraged
- _____ discouraged interaction
- 11b. At this center (check one)
- _____ most people (all) participated
- _____ some (few) people participated
- _____ almost no one (none) participated
- 11c. At this Center (Check one)
- _____ participants were very interested
- _____ participants were somewhat interested
- _____ participants were not interested

*In 2-way interactions, education and training are transacted.

TABLE I., cont'd

11d. People who participated (Check one)

_____ were mostly the ones who always interact

_____ were a mix of "regulars", "new" and
"seldom" interactors

_____ were mostly "new" or "seldom" interactors

11e. Interaction was hampered by (Check all that
apply)

_____ poor sound quality

_____ poor picture quality

_____ interrupted transmission. How long _____

_____ Other (specify) _____

12. Presenter(s)

Name(s), function(s) [Chairman, expert],
identification [agency]

13. Length of session _____

14. Number of Participants (a plus b) _____

a. Preparers (Names) _____

b. Attendees (Names) _____

c. Weather _____

d. Local incident or problem? _____

(Note: Local newspaper file retains additional
general information: election, national news,
local news, etc.)

TABLE II

6.4.1.2 Session Data Categories (Recorded by Observers as intra-group interactions in person at time of sessions and from videotapes of sessions as inter-group interactions)

16. Seating arrangement of participants in relation to cameras/monitor units, microphones, obstacles.
(Sketch) (Intra-group only)
17. Check:
 - Subject matter (See 4. above)
 - Mode (See 7. above)
 - Type (See 8. above)
 - Session Style (See 9. above)
 - Session Function (See 10. above)
 - Interaction specifics (See 11. above)
 - Date _____
 - Hour _____
 - Weather _____
18. Time Sequence of Behaviors (Related to numbered individual participants as noted on seating sketch; observations every 1 minute)
 - 18a. Question or Comment (to group; to system; in relation to illustration, statement, forced response, etc.)

TABLE II, cont'd

- 18b. Question or comment (about session; away from session, inaudible)
- 18c. Question or comment (long, short; information-seeking, conflict, agreement, irrelevant.)
- 18d. Question or comment (Note pattern, by numbers assigned to individuals - as 3-6-3-1)
- 18e. Evidence of barrier (Verbal: "Can't hear Can't see, Don't know how")
- 18f. Evidence of barrier (Non-verbal: move to hear, to see, leave session, etc.)
- 18g. Attentive/inattentive/distracted/engaged in solo activity/asleep.
- 18h. Evidence of frame problem (Verbal: "Can't see who I'm talking to". "Can't see what _____ is talking about". "Who's she talking to?", etc.)
- 18i. Evidence of frame problem (Non-verbal: ?)
- 18j. Group silent; attentive; inattentive.
- 18k. Group noisy; _____ attentive, _____ inattentive
- 18l. Seating change. (Note on chart)
- 19. Post-Session Evaluation (on overall sessions)
 - 19a. Formal/Informal?

TABLE II, cont'd

19b. Session Format (videotape observation only)

Presentation length(s) vs. participation
lengths; sequence

presentation 1 (minutes) _____
participation1 _____
present 2 _____
participation 2 _____
presentation 3 _____
participation3 _____
presentation 4 _____
participation4 _____

Consensus (es) reached at (clock time)

consensus 1 _____
consensus 2 _____
consensus 3 _____
consensus 4 _____

Subject switch (clock time) (subject)

Switch 1 _____ to _____
Switch 2 _____ to _____
Switch 3 _____ to _____
Switch 4 _____ to _____

19c. Interactive or Passive?

19d. Number of interactors (other than presenters)

19e. Subjective evaluation of participants' satisfaction.

___very unsatisfactory
___generally unsatisfactory
___midrange
___generally satisfactory
___very satisfactory

TABLE II, cont'd

19f. Subjective evaluation of presentation and
panel responses (Same scale for both)

_____very good

_____good

_____fair

_____poor

_____counter-productive

19g. Discussion of critical incidents and
processual changes

TABLE III

6.4.1.3 Session Data Categories (as evaluations recorded
by Monitor panelists, ad hoc interviews and questionnaires
of one-way participants and NCC Center participants)

(All panelists' records are made daily following sessions; one-way and NCC participants, ad hoc.)

Location _____ Date _____

20. (Barriers and Capabilities)

20a. Could see/hear well _____ all the time
 _____ most of the time
 _____ half the time
 _____ less than half
 _____ almost never

20b. Presentation _____ was clear
 _____ was not always clear
 _____ was mostly not clear

20c. Session in general _____ was well run
 _____ seemed unsure
 _____ wandered all over

20d. I was _____ satisfied, glad I came(*glad I watched)
 _____ not very satisfied
 _____ dissatisfied, wished I was elsewhere

TABLE III, cont'd

21. Subject matter

21a. I am very interested in this subject _____

I am somewhat interested _____

I am not very interested _____

I am not at all interested _____

21b. The subjects I'm actually interested in are:

(Put 3 for very interested; 2 for somewhat
interested; 1 for mildly interested)

LIST (with blanks for "other")

22. Agreement/disagreement with observers.

22a. The session was formal _____

informal _____

22b. The session was most like:

a club meeting _____

a class _____

a study group _____

a discussion group _____

a contest _____

a kaffee klatsch _____

physical activity _____

entertainment _____

other (specify) _____

22c. (I took part _____

(I didn't take part _____

TABLE III, cont'd

- 22d. Most people took part _____
Most people didn't take part _____
- 22e. Other people seemed _____ satisfied
_____ not very satisfied
_____ dissatisfied
- 22f. The presenters were _____ really interesting
_____ all right
_____ uninteresting
- 22g. The amount of material covered was
_____ way too much
_____ more than it should have been
_____ just the right amount
_____ less than it could have been
_____ hardly anything. Nothing new.
_____ counter-productive

TABLE IV

6.4.2.1. System Data Categories (Kept as logs and diaries
by System Coordinator, NCC Coordinators, Production Research-
er Engineering Consultant.)

System staff began to keep logs and diaries as of June 1, 1975 and will continue to do so throughout experimental implementation of the system (ending February 28, 1977.) The logs are designed to maintain a precise chronological record of start-up and operating activities by individual's time expended per day.

Diaries are used to explain critical incidents (including problems, decisions, points of change, and extraordinary expenditures of time and/or effort) as well as anecdotes illustrative of classes of problems and changes. These logs and diaries are in addition to and separate from the NCC records of specific sessions. (See 6.4.1.1)

These data will be used in both analysis of cost functions and in chronicling the system's development.

TABLE IV, cont'd

- 23. Activities (engaged in by staff)
 - 23a. Training and Education
 - 23b. Session Planning
 - 23c. Session Implementation
 - 23d. Public Relations
 - 23e. System operations
 - 23f. Administration
 - 23g. Planning, general
 - 23h. Other (specify)
- 24. Staff Interaction with (other staff, participants, local officials)
 - 24a. Other full-time professional staff
 - 24b. Tech Aides
 - 24c. Volunteer workers (administrative or operational)
 - 24d. Participants (seniors or agency)
 - 24e. Researchers
 - 24f. Local officials
 - 24g. Other (specify)
- 25. Activities related to (system operations)
 - 25a. Whole system
 - 25b. Specific NCC or other system location
 - 25c. Hardware or software
 - 25d. Startup

TABLE IV, cont'd

- 25e. Operating
- 25f. Other (specify)
- 26. Time (of activity)
 - 26a. Day: Date, AM or PM
 - 26b. Total time per activity
 - 26c. Total time for day
- 27. Place (of activity)
 - 27a. Locus of activity
- 28. Type (of activity)
 - 28a. Meeting
 - 28b. Writing (letter, memo, etc.)
 - 28c. Class or training session
 - 28d. Telephone call
 - 28e. Appointment, Interview
 - 28f. Other (specify)

TABLE V

6.4.2.2 System Data Categories (kept as logs by Senior Aides)

These logs are separate and distinct from the records kept by Senior Aides on specific sessions. (see 6.4.1.1)

The purpose of these logs is to keep track of the amounts of time devoted to the NCC system by participants as trainees, volunteer workers, session preparers, etc. (in other words, time apart from actual interactive sessions.)

29. Participant activity time

29a. Day and Date

30. Participants, per activity and time

30a. Participant name, address, activity (see 31.),
time spent.

31. Participant activities

31a. Being trained

31b. Training others

31c. Session preparation/planning

31d. Administrative work

31e. Public relations

31f. System/operational planning

31g. Other (specify)

APPENDIX D

6.0 Analysis of Communications Research Data

The research questions contained in sections 6.1, 6.2, and 6.3 will be related to the data collection detailed in Appendix C (6.4.1.1-6.4.2.2). The questions will be addressed by linking the questions, repeated below, to specific data sets.

Near-term effects: evolutionary optimization

- A. What barriers and constraints to communication appear in the system or its users? How may these be eliminated or reduced?

Evaluate, analyze and correct at meetings of Monitor panels:

11a, 11e,
18e, 18f, 18h, 18i
20a, 20b, 20c
21a, (if "not at all")
22f, 22g (if "counterproductive")

- B. What mixes of session type (8), subject matter (4), mode (7), function (10), number of presenters, and other variables (3, 5, 6, 9, 11, 12) are related as most satisfactory by participants? Analysis of other factors in session favorably judged in 19e, 20d, 22e.

- C. What changes can be effected in system operations and session organization better to satisfy the purposes of participants? Vary independent variables in sessions of similar subject matter (4) and function (10), e.g. in a regular series of sessions, vary chairing locations (5a-d), modes (7a,c), presentation styles (9a-c) (11a), length of session (13), seating arrangement (16). Compare changes in 19e, 20d, 22e (as dependent variables).
- D. To what extent is participant satisfaction dependent on inclusion or elimination of video in the interaction? Vary mode (7a-c) arbitrarily; e.g. one week a, one week b, one week c; Compare against 11b, 11c, 19e, 20d, 22e.

Near-term effects; system events associated with measurable impacts.

- E. Are "more satisfactory" communications (in particular sessions, or series of related sessions (3)) associated with greater uptake of services or other impacts?
- Analyze the relationships among 11b, 11c, 19e, 20d, 22e with agency-generated data on service

uptake, inquiries or requests.

- F. Does increased participation in the NCC system associate with impacts such as increased uptake and referrals? Are such effects selective or general (with respect to services)?

Determine extent of relationship between high totals in 14b, 29, and 30, over time with agency generated data during the experimental period.

- G. Does increased participation in the NCC system relate to qualitative changes in service delivery? Correlate high totals of 14b, 29, and 30, with mini-surveys on qualitative changes in social service agencies and local government.

Longer-term consequences

- H. How may interactions between elderly participants and service/official participants be characterized?

How do these characteristics change over time?

Review: NCC Coordinator's responses under 11a-d;

Observers's notes under 18a, b, c, d, 19e, 19f, 19g,

Monitor Panelists' responses to 22a-g.

- I. Are attitudinal changes seen in impact studies related to prior changes in the quality of system interactions (interactions having to do with those subject areas associated with the attitudinal

changes?) Review: NCC Coordinators' responses
11a-e; Observers' notes (17, 18), mini-surveys
(20,21,22) agency-generated data.

J. What actions were taken when a consequence
previously unanticipated emerged as a concrete
reality?

Minutes of Monitor Panel meetings (32);
Observers' notes (17,18).

Chronicle of the experiment

K. What decisions and events proved to be significant
in development of the communication process in
the NCC system?

Retrace major elements of form of the system
to events and decisions in staff logs (23-28),
minutes of monitor panel meetings (32).

L. How were barriers to communication identified
and reduced?

Review monitor panel minutes (32); see comments
related to A, above.

M. How were constraints identified and minimized?
(Same as L.)

- N. How did participants change and adapt with regard to barriers and constraints?
Review monitor panel minutes (32); review subsequent observers' notes 18a-18l, 19a-19g, monitor panelists' notes 20a-20d, 22a-22g.
- O. What conflicts emerged? Were they resolved, and how? Review observers' notes 18c; review diaries of system staff (23-28); review minutes of monitor panel meetings (32).
- P. Which uses of the system developed most readily and how did use of the system change over time? Review diaries of system staff (23-28); review records of data categories 4a-4g, 7a-7c, 8a-8b, 9a-9c, 10, 11a-11c, 12, 13, 17, 19a-19d, 19g.
- Q. What mixes of communication elements (type, mode, subject matter, etc.) proved most "satisfactory" during the experimental period?
See B, above.
- R. What relationships appeared among training, implementation, and administration? For example, did more rapid learners emerge as more active session participants and administrators?
Review and compare records of data sets: 12, 14, 18, with log and diary entries under 23, 24, 29, 30 and 31.

S. At what points were participant-trainees able to assume responsibility for system functions and replace professionals? How much training had they required?

Review and compare records of data sets:12, 14 with log and diary entries under 23,24,29,30 and 31.

T. What was learned about relationships between internal communication processes and measured system impacts? (as well as other questions under 5.1 and 5.2) (See E through J, above.)

U. What sources of ongoing support were identified and developed during the course of the experiment? What were the particulars of such support (objectives, subject matter, mode, functions, research activities, support level, policies with regard to?) Was the NCC system enabled to continue past the experimental period? Refer to administrative records and agreements, Logs and diaries of system coordinator (23-28).

APPENDIX E
FINAL COMMUNITY DEVELOPMENT BUDGET

<u>Community Development Programs</u>	<u>3 Year</u>	<u>1st Year</u>
<u>Housing Programs</u>	<u>\$2,653,500</u>	<u>\$822,500</u>
Code Enforcement	600,000	245,500
Demolition	200,000	80,000
Public Rehab.	450,000	120,000
Rehab. Loans & Grants	1,000,000	85,000
Res. Renewal-Glenside & 11th & Penn	367,500	280,000
Emergency Housing	36,000	12,000
 <u>Physical Environment</u>	 <u>\$2,416,500</u>	 <u>\$1,020,500</u>
Widen Court Street	165,000	90,000
Oley Street Construction	86,000	86,000
General Street Repairing	450,000	150,000
Handicapped Improvements	35,000	10,000
Street Trees	60,000	40,000
Street Lighting	600,000	200,000
Sewer & Water	600,000	274,000
Near N.W. Neighborhood Improv.	400,000	150,000
Works of Art	20,500	20,500
 <u>Economic Development</u>	 <u>\$2,438,000</u>	 <u>\$633,000</u>
Northeast Industrial	1,388,000	153,000
Downtown East	1,050,000	480,000
 <u>Parks and Recreation</u>	 <u>\$1,583,000</u>	 <u>\$817,000</u>
 <u>Human Resources</u>	 <u>\$900,000</u>	 <u>\$240,000</u>
 <u>Continue M.C. Activities</u>	 <u>\$18,000</u>	 <u>\$18,000</u>
 <u>Administration & Citizen Part.</u>	 <u>\$750,000</u>	 <u>\$255,000</u>
 <u>Contingencies</u>	 <u>\$1,140,000</u>	 <u>\$380,000</u>
 T O T A L	 <u><u>\$11,899,000</u></u>	 <u><u>\$4,186,000</u></u>

APPENDIX F: VITAE

Jacqueline Park
110 Bleecker Street
New York, N.Y. 10012

Social Security: #058-36-6142

EDUCATION

B.A. (Honors Economics) - University of Manitoba, 1944

M.A. (Political Economy) - University of Toronto, 1948

ACADEMIC POSITIONS

- 1973- Appointed sub-department head for Writing & Telecommunications programs, New York University, School of the Arts.
- 1972 Director of Research & Publications, Alternate Media Center at New York University School of the Arts.
- 1970- Associate Professor, New York University School of the Arts. Developed curriculum in community uses of videotape through cable television. Instituted media internship program in community agencies, including New York City Department of Parks & Recreation; Rubella Project (New York University-Bellevue); Bureau of Child Welfare, New York City.
- 1967-1970 Adjunct faculty appointment, New York University School of the Arts.

PROFESSIONAL NON-ACADEMIC POSITIONS

- 1964-1965 Writer-Researcher; supplementary educational materials for broadcast on the educational network, Province of Ontario Department of Education. Secondary rights: Encyclopaedia Britannica Films.

Jacqueline Park

- 1960 Writer-Researcher, Association for Secondary Schools Principals (USA, under Ford Foundation grant - series on new innovations in secondary school education.)
- 1957-1967 Freelance writer (documentary and drama) for CBC Drama, BBC Drama, Granada TV (England), NBC (USA), Metromedia (USA). Secondary rights: New Zealand, Australian and Polish TV networks.
- 1957-1962 Permanent Panelist, COURT OF OPINIONS (weekly discussion program,) CBC Radio Network.
- 1957 Script editor, CBC.
- 1956-1957 On-air reporter, TABLOID (nightly TV news show,) CBC TV Network.
- 1953 &
1957 Media Specialist for Prime Minister St. Laurent (personal staff.)
- 1949 Editor, film reviewer, CANADIAN MOTION PICTURE DIGEST.
- 1946 Writer-researcher, documentary films. Audio Pictures of Canada.
- 1944-1945 Research assistant to Documentary Film Unit, National Film Board of Canada. Liaison with Dominion Bureau of Statistics, Department of Labour & Department of External Affairs, NFB. Writer of documentary film scripts, NFB.

SPONSORED RESEARCH

- 1974 Principal Investigator, "Three Interactive Cable Television Formats For Community Information Centers Serving The Needs of The Urban Elderly." National Science Foundation.
- 1975 Co-Principal Investigator, Test and Evaluation of Public Service Uses of Cable Television, Reading, Pennsylvania, National Science Foundation, Division of Advanced Productivity Research & Technology.

Jacqueline Park

CONSULTANCIES

- 1973 Dayton-Miami Valley Consortium (under Fund for Post-Secondary Education,) Dayton, Ohio.
- 1972-1973 Title III Program in Innovative Education: Instructional Television for Experiential Learning. (Berks & Schuylkill Counties, Pa.)
- 1972 General Telephone & Electronics Corp. (R. & D. Division,) Waltham, Mass.
- 1955-1963 Script consultant, Canadian Broadcasting Corporation.

PUBLICATIONS (including visual material)

Documentary films:

Approximately 10 short films, commissioned by departments of Canadian government to explain citizen participation in the war effort. (Distributed world-wide by the National Film Board of Canada.

Short films produced by the Liberal Party of Canada for theatrical distribution in the political campaigns of Prime Minister St. Laurent (1953 and 1957).

Actuality television programs produced by the Canadian Broadcasting Corporation for transmission on the CBC Television Network.

Series - (diverse curricula) Government of Ontario Educational Television Network.

Several sponsored information films on aspects of Canadian Industry (sponsors include: Albitibi Pulp & Paper, Brazilian Traction, CCM.)

Jacqueline Park

Narrative films
and TV shows:

Scripts for CBC-TV network series:
General Motors Theatre; The Seaway;
Metropolitan Hospital; CBC Folio.

Episodes of The Nurses, NBC Network, (USA.)

Episodes of Magistrate's Court, Screen
Gems, Canada.

Print:

Articles for Motion Picture Digest.

Articles for MacLean's Magazine,
Toronto, Canada.

Paper: SUBJECT-GENERATED DATA delivered
at American Political Science Association
Annual Meeting, 1971.

Editor - Alternate Media Center Catalogue
- Vol. I, 1973.

Editor - THE ACCESS EXPERIENCE: A PRO-
FILE OF SIX CENTERS, 1974.

Editor & Contributor: THE ACCESS WORK-
BOOK, Vols. I & II, 1974.

Novel - CHARLEY'S BACK IN TOWN, Popular
Library, 1974.

LECTURES AND SYMPOSIA

1973 HEW Regional Conference: Cable Telecommunications
& Human Services.

American Library Association Annual Meeting.

1972 Temple University - Symposium: Anthropology &
Film.

Columbia University - Urban Communications Seminar.

1971 American Political Science Association - Annual Meeting.

VITA

Mitchell Lawrence Moss

Graduate School of Public Administration
New York University
4 Washington Square North
New York, New York 10003
212-598-3295

Apt. 15-V
One Washington Square Village
New York, New York 10012
212-982-3822

Personal Data:

Born: November 21, 1948
Citizenship: United States
Marital Status: Single
Military Service: U.S. Army Reserve, Honorable Discharge

Education:

B.A., Northwestern University, 1969, Political Science
M.A., University of Washington, 1970, Political Science
Ph.D., University of Southern California, 1974, Urban Studies

Professional Experience:

Assistant Professor of Public Administration and Planning,
Graduate School of Public Administration, New York University,
September 1973 - present.

Instructor, School of Public Administration and Research
Associate, Center for Urban Affairs, University of Southern
California, September 1972 - August 1973.

Research Associate, National Sea Grant Program, "Coastal
Zone Planning and Management," Center for Urban Affairs,
University of Southern California, September 1971 - August
1972.

Predoctoral Research Associate, National Sea Grant Program,
"Sociological, Institutional and Legal Considerations in
the Management of Puget Sound," University of Washington,
June - August 1971.

Predoctoral Research Associate, Urban and Regional Science
Research Group, University of Washington, January -
June 1971.

Mitchell L. Moss

Teaching Assistant, Department of Political Science, University of Washington, September - December 1970.

Research Assistant, Technical Committee on Local Government Reorganization, University of Washington, February - August 1970.

Publications:

Articles:

"The Urban Port: A Hidden Resource for the City and the Coastal Zone," Coastal Zone Management Journal, Vol. II, No. 3, 1975.

"Allocating Coastal Resources: Rationing and Trade-off Processes," (With Robert Warren, Robert Bish, and Lyle Craine) in Boswitch Ketchum, ed., The Water's Edge: Critical Problems of the Coastal Zone, MIT Press, 1972.

"Alternative Strategies for Shorelines Management," in Shorelines Management: The Washington Experience, University of Washington Press, 1973.

Research Reports:

Community Decision-Making and Energy Exploration: The Pacific Palisades Conflict, (with Michael Briggs) University of Southern California Sea Grant Program, December 1973.

Procedures and Programs to Assist in the Environmental Impact Statement Process, (with Jens Sorensen) California Marine Advisory Program, Publication No. 2, April 1973. Reprinted by National Technical Information Service, Springfield, Va., #COM-73-11033.

The State Urban Role and the U.S. Department of Health, Education and Welfare: Synthesis of Findings for Washington State, (with Robert Bish and Robert Olander) April 1972. Report to the State-Urban Study Team on the role of HEW in urban problem areas financed by Georgetown University, Contract No. 3-145-917-02 with the Department of Health, Education and Welfare.

Mitchell L. Moss

The U.S. Department of Health, Education and Welfare's Relationships with State and Local Government in Washington State: The State and Local Perspective, (with Robert Bish and Robert Alander) April 1972. Report to the State-Urban Study Team on the role of HEW in urban problem areas financed by Georgetown University, Contract No. 3-145-917-02 with the Department of Health, Education and Welfare.

"Bibliography of Recent Publications Concerning Cable Television," in Robert Warren, ed., The Wired City of Los Angeles, Center for Urban Affairs, University of Southern California, Los Angeles, California, November 1972.

Papers Presented at Professional Meetings:

American Society for Public Administration, Annual Meeting, Chicago, Illinois, April 1975,

Paper presented, "The Urban Waterfront: The Social Implications of Technological Change."

Office of Telecommunications Policy, Annual Meeting, Airlie House, Airlie, Virginia, April 1975.

Panel participant, "Development in Two-Way Cable Television."

Western Political Science Association, Annual Meeting, Portland, Oregon, March 1972,

Paper presented, "The Potential Impact of Cable Television on Urban Political Processes."

American Association for the Advancement of Science, Annual Meeting, Washington, D.C., December 1972,

Paper presented, "Development of Procedures and Programs to Assist in the Preparation and Review of Impact Statement," (with Jens Sorensen).

Marine Technological Society, Pacific Rim Section, Seattle, Washington, February 1972,

Paper presented, "Emerging Patterns in the Development of Marine Resources."

Research Grants:

Co-Principal Investigator, Test and Evaluation of Public Service Uses of Cable Television, Reading, Pennsylvania, National Science Foundation, Division of Advanced Productivity Research & Technology, May 1975 - August 1976.

Mitchell L. Moss

Principal Investigator, Planning and Redevelopment of Urban Coastal Resources, New York State Sea Grant Program, November 1974 - October 1975.

Senior Research Investigator, Three Interactive Cable Television Formats for Community Information Centers Serving the Needs of the Urban Elderly, Research Applied to National Needs, National Science Foundation, July 1974 - January 1975.

Associate Investigator, Graduate Program in Marine Affairs, University of Southern California, National Sea Grant Program, 1972 - 1973.

Professional Activities:

Member, Editorial Advisory Board, Coastal Zone Management Journal: Environment, Resources, Law, 1975.

Consultant, Ocean Economics and Technology Office, Department of Economic and Social Affairs, United Nations, November 1974.

Research Staff, Conference on Critical Problems of the Coastal Zone, sponsored by the Institute of Ecology and the Woods Hole Oceanographic Institution, Woods Hole, Massachusetts, June 1972.

Consultant, California Advisory Commission on Marine and Coastal Resources, Analysis of the Comprehensive Ocean Area Plan, October 1972.

Lecturer, Environmental Management Institute, University of Southern California, 1973.

Lecturer, "Urban Man and the Marine Environment," University of Southern California Extension Program, March 1973.

VITA

Red Burns

Born: April 9, 1925 Ottawa, Canada

Present Residence: New York City

Social Security #: 112 40 0807

- 1974 Executive Director, Alternate Media Center,
New York University, School of the Arts.
Adjunct Professor, Undergraduate Division
Co-Director of Implementation, Test and Evaluation of Public Service Uses of Cable Television, Reading, Pennsylvania, National Science Foundation, Division of Advanced Productivity Research & Technology.
- 1971-1974 Co-founded Alternate Media Center at New York University, School of the Arts. Adjunct Professor, Undergraduate Division Film & TV, School of the Arts, New York University.
- 1970 Community Media Co-ordinator, New York University, School of the Arts.
- 1961-1970 Studied TV production in Europe, Asia and South America. Set up production facilities (both film and tape) in Canada, Australia and Germany. This activity in conjunction with Lloyd Burns, President, Screen Gems International Inc.
- 1960-1961 Taught children remedial reading and remedial math for the Public Education Association.
- 1955-1959 Director of Syndicated Sales, Screen Gems (Canada) Ltd.
- 1953-1955 Managed Telepix Movies Ltd. - a producer and distributor of films for television. This company was absorbed by Screen Gems Inc. and became Screen Gems (Canada) Ltd.
- 1947-1953 At home managing household and raising children.
- 1944-1947 Co-ordinator of Technical Services - National Film Board of Canada.
- 1942-1944 Joined the National Film Board of Canada. Trained in all aspects of film production.
- 1941-1942 Explored varied interests through a daily schedule of reading and studying at the public library.

Red Burns

SPEAKING ENGAGEMENTS

National Cable Television Association - Education & Cable
- 1971
Mitre, McLean, Va. - symposium on Urban Cable Television
- 1972
Boston University School of Public Communications - "The
New Media & Public Communication" - 1973
University of California, Berkeley - "Programming for
Cable" - 1973
H.E.W. Conference, Dayton - "Cable Telecommunications
& Human Services - 1973
Canadian Cable Association - 1973
Archdiocese of Philadelphia - 1973
Tulsa Library - 1973
Young Audiences, New York City - 1973
AFL-CIO - Labor Studies - 1974
National Commission On Co-operative Arrangements - 1974
Community College LRC, American Library Association
Pre-Conference - 1974

INSTRUCTIONAL CONSULTANT

Instructional Television for Experiential Learning - ESEA
Title III Program in Innovative Education,
Kutztown College, Pa. Designed and taught 10
sessions - 1972-1973.

DESIGNED & CONDUCTED WORKSHOPS

National Education Association - Iowa/Sioux City and Des
Moines - 1973
Carnegie Endowment for Peace, Washington - 1973

ASSOCIATE

Academy for Contemporary Problems - 1973-1974.

Red Burns

SEMINARS

Columbia University - Urban Communications - 1972
American Friends Service Committee, Atlanta - 1972
Temple University, Philadelphia - Anthropological Conference - 1972
Metropolitan Training Institute - 1973
Publi-Cable, Kutztown - 1973
Harvard University Graduate School of Design - 1973
Educational Video Access Corporation - 1974
Cablecommunications Resource Center ("Cablelines") - September, 1974
Aspen Institute - Seminar in Communications, Aspen, Colorado - August, 1975

LECTURES

Cal. Tech., Pasadena, California - Community & Cable - 1972
Northern Illinois University - Journalism - 1973

WORKING MEETINGS

Educational Technology & New Towns; Educational Facilities Lab., Reston, Va. - 1973
Vocational Rehabilitation, New York State Department, Albany, N.Y. - 1974.

CONSULTANT

Berks TV Cable, Reading, Pa. - 1971-74
Cypress Communications - 1971
American Television & Communication Corporation - 1971-74
General Telephone & Electronics Corp., (R & D Division), Waltham, Mass. - 1972
Deafness Research; NYU - 1972
Columbia Green Community College, Athens, N.Y. - 1972
Bakersfield Community Video Access Center - 1972-1974
Rubella Project; Bellevue Hospital, N.Y.C. - 1972-73
Neighborhood Action Program, Washington Heights, N.Y.C. - 1972-1974
Public Access Workshop, Orlando, Florida - 1972-1974
Public Access Workshop, DeKalb, Illinois - 1973-74
LVO Cable Inc. - 1973
Chicago Community Trust, Chicago, Illinois - 1973
Public Advocates, San Francisco, California - 1973
Marin Community Video, Marin County, California - 1973
Dayton-Miami Valley Consortium - under a grant from the Fund for Post-Secondary Education; developing an Interactive Learning System/Cable TV - 1973-1975
Flathead Valley Community College, Kalispell, Montana - Total Community Education - 1973-1975
Warner Communications - 1973-1974

Red Burns

Educational Alliance, Headstart, N.Y.C. - 1973-1974
Manhattan Cable, New York - 1974-1975
Bellevue Psychiatric Hospital, Family & Group Therapy
Unit - 1974
Political Secretary to the Prime Minister of Finland -
1974
Rochester Cable Task Force - 1975
Consulate General of the Federal Republic of Germany -
1975
A.I.A. Research Corp., Washington, D.C. - 1975
F.C.C. - Advisory Conference on Research Concerning the
Educational Uses of Cable Television - 1975

PUBLICATIONS

Contributor to: The Access Workbooks, Alternate Media
Center - 1974
Publi-Cable Handbook - 1975

EVALUATOR

Alpena Public Schools, Alpena, Michigan - 1975

Presented position paper on Public Access to: F.C.C.
(Closed Session) - 1973

VITA

Ben Park
110 Bleecker Street, Apt. 24B Born October 28, 1920
New York, N.Y. 10012 Madison, Wisconsin

Social Security #: 390-14-3305 Telephone:
Offices: (212) 598-3338/9
(212) 598-7871/2

EDUCATION

Univeristy of Wisconsin September 1938 - January 1942
Madison, Wisconsin Summer 1946 B.A.

New York University September 1974 - June 1977
Graduate Studies leading to
Ph.D. (Media Ecology)

OCCUPATION RESUME

1972- Director of Communications Research, Alternate
Media Center at New York University School of
the Arts.

1970- President, Flaubert Inc., New York (Consultants
and producers, communications for health care
and life sciences.)

1969-1972 Director of Programming, The network for Con-
tinuing Medical Education, Visual Information
Systems, New York.

1963-1969 Supervisory Producer, United Nations Television,
United Nations, New York.

1961-1963 Vice-President, Ralin Productions Inc., New
York, (Educational films and television.)

1959-1961 Contract Producer for Westinghouse Broadcasting
Company, New York; The Ford Foundation; Center
for Mass Communication, Columbia University,
New York.

1957-1959 President, Mills-Park-Milford, Inc. New York
(Educational entertainment television.)

1955-1957 Director of Public Affairs, National Broad-
casting Co., New York.

1951-1955 Networks Program Manager, National Broadcasting
Co., Chicago, Ill.

Ben Park

- 1950-1951 Producer-Director, National Broadcasting Co., Chicago, Ill.
- 1948-1950 Director of Radio, Chicago Industrial Health Association, Chicago, Illinois.
- 1946-1948 Producer-Director, Columbia Broadcasting System, Chicago, Illinois.
- 1944-1946 Sergeant, United States Army Signal Corps.
- 1942-1944 Production Manager, WHA, Wisconsin State Educational Radio, Madison, Wisconsin.

TEACHING POSITIONS (Concurrent with above.)

- 1951-1955 Lecturer, Northwestern University, Evanston, Illinois.
- 1955-1957 Instructor, Columbia University, New York (Television Production.)
- 1963-1967 Lecturer, New York University, New York (Screenplay and Documentary Writing.)

ORGANIZATIONS AND MEMBERSHIPS

- 1969-1970 Academy of Television Arts & Sciences; National Awards Selection Committee
- 1955-1957 Alpha Delta Phi, National Board.
- American Federation of Television & Radio Artists.
- 1955-1957 American Heart Association, Mass Media Commission.
- 1965-1966 Golden Eagle Awards, Selection Committee
- International Communications Association
- 1946-1955 Radio & Television Directors Guild, International Vice-President & President, Chicago Chapter, 1953-1955.

Ben Park

1960-1962 Radio Station WBAI, Program Board.
Speech Communication Association
Writers Guild of America

PAPERS AND PUBLICATIONS

- 1950 "How to Edit Magnetic Tape", Monograph for
Brush Engineering Company, Cleveland, Ohio.
- 1961 Study and report on cooperative education, for
the Commission for Cooperative Education,
New York.
- 1970 Two articles on the training of writers for ETV
Magazine, Westport, Conn.
- 1972 Policy and forecast papers for formation of
Communications Lab. at New York University
(co-author.)
- 1972-1973 Proposals for funding: "The Orlando Tele-
medicine Project"; Response to National
Science Foundation Request for Proposal #45
on Foundation of New Research Groups in Tele-
communications Policy Formation (co-author.)
- 1974 "An Introduction to Telemedicine: Interactive
Television for Delivery of Health Services"
funded by The Rockefeller Foundation, New York,
Pub. Alternate Media Center, New York, 1974.
- "Communication Aspects of Telemedicine", in
Bashshur, Youssef, Armstrong, eds., Tele-
medicine, pub. Charles Thomas, Springfield,
Ill., 1974.
- "Some Communication and Social Aspects in
the Development of Telemedicine" (with
Rashid Bashshur), paper delivered at the
First Miami International Conference on
Progress & Prospects in Health Care Distri-
bution Systems, sponsored by National Sci-
ence Foundation, University of Miami School
of Medicine, Westinghouse Health Systems,
Miami, Nov. 25-27, 1974.

Ben Park

"Alternatives to Current Experience of the Aging with Media" Paper delivered at Conference on Media and Aging, sponsored by the Center for the Study of Democratic Institutions and the Gerontological Society, Santa Barbara, December 15-18, 1974.

1975 "Some Ecological Perspectives of the Medium of Interactive Television", paper delivered at the Seventh Media Ecology Conference, Wallkill, N.Y., April 17-19, 1975.

"Some Communication and Social Aspects in the Development of Telemedicine" (with Rashid Bashshur), revision of 1974 paper accepted for publication in Summer, 1975, edition of Communication, the journal of the International Communication Association.

"Telemedicine in the U.S.: An Overview", paper for Canadian Telemedicine Conference, London, Ontario, Oct. 16-17, 1975.

"Learning How to Use Interactive Television, A Case Study", paper for telemedicine conference sponsored by Medical Care Organization, University of Michigan, and National Science Foundation, Tucson, Arizona, December, 1975.

RESEARCH

Extensive investigative research, in connection with writing and production of documentaries for radio and television.

1947-1948 Juvenile delinquency, prison reform, housing shortage in Chicago.

1948-1949 Problems in delivery of health care.

1950 Rheumatic heart disease in children.

1953 The architecture of Frank Lloyd Wright; Wright's career.

1954 Economic, social and production factors in American agriculture.

Ben Park

- 1955 Futuristics; projection of impact of technology on America by 1976.
- 1956 Medical group practice.
- 1956-1957 Scope and nature of International Geophysical Year; scientific subjects.
- 1959 New directions in advanced science education.
- 1960 New directions in secondary education.
- 1961-1969 United Nations development concerns. Palestinian refugees, socio-economic problems in Africa, Southeast Asia, Middle East, Latin America.
- 1968 Life and work of Dr. Paul Dudley White.
- 1969-1973 Broad range of clinical entities, delivery questions and socioeconomics of medicine.

SPONSORED RESEARCH

- 1961 Cooperative education; recommendations for approaches to public information about cooperative education. (Commission for Cooperative Education.)
- 1972 Feasibility study of telemedicine application in two-way television, Orlando, Florida (New York University School of the Arts.) Preparation of approach to study of telecommunications policy (New York University Development Office.)
- 1973-1974 Investigation of current experience in telemedicine (Rockefeller Foundation.)
- 1974 Impact of interactive television in delivery of social services via two-way cable television (National Science Foundation) with interdisciplinary team at New York University (Economics, Sociology, Political Science.) Phase I Study.

Ben Park

1975

Impact of interactive television in delivery of social services via two-way cable television (see above). Phase II Implementation and Research.

CURRENT RESEARCH INTERESTS

Nature of communication via interactive television.

Development of interactive television applications.

AWARDS AND HONORS

American Film Festival

American Heart Association

City College of New York - Outstanding Achievement

Cracow, Poland, Film Festival

Golden Eagle (Cine)

Ohio State University Awards (7)

Peabody Awards (2)

Phi Eta Sigma

"Variety" - Showmanagement

Westinghouse Research Laboratories Award

VITA

HERBERT MENZEL

PRESENT POSITION

Professor, Department of Sociology, New York University,
19 University Place, New York, N.Y. 10003 (Since 1965)

PREVIOUS RESEARCH EXPERIENCE

Research Associate, Bureau of Applied Social Research,
Columbia University, 1952-1965

See also "Service Abroad"

PREVIOUS TEACHING EXPERIENCE

Lecturer, Columbia College, 1963-1965

Visiting Lecturer, Summer 1964 U. Of California, Berkeley.

Lecturer, Barnard College, 1962-1963

Lecturer, Columbia U. School of General Studies, 1959-
1960 and 1963-1964

Instructor, Carleton College, 1951-1952

Graduate Teaching Assistant, University of Wisconsin,
1949-1950

See also "Service Abroad"

SERVICE ABROAD

Visiting Professor, University of Oslo, Norwegian Basic
Science Research Council, September 1969-January 1970

Visiting Professor, University of Warsaw and

Resident Research Consultant, Public Opinion Research
Center of Polish Radio, February 1961-January 1962

DEGREES

B.A. U. of Wisconsin 1947

M.A. Indiana U. 1950 "The Social Psychology of
Occupations"

Ph.D. U. of Wisconsin 1959 "Social Determinants of
Physicians' Reactions to
Innovations in Medical
Practice"

HONORS

Phi Beta Kappa

All-University Fellowship, Indiana U.

University and K.K. Knapp Fellowships, U. of Wisconsin

Herbert Menzel

PERSONAL

Born 1921, Czechoslovakia
U.S. resident since 1939
U.S. citizen since 1942
Army of the U.S., 1942-1945 (Technical Sgt., Military
Intelligence Service)
Married (Two married daughters by previous marriage)

SPECIALIZATION

Communication, diffusion of innovations, survey methodology

CURRENT AND RECENT ACTIVITIES (since Sept. 1972)

Published:

"Some Themes of Communication Policy" and "Choosing the Best Tool for Reading each Audience with each Message Type," in Susan R. Hammerman, ed., Communications in Rehabilitation. New York: Rehabilitation International, 1974.

Technical Report:

"The Role of Communication Channels in the Propagation of Innovations: Changes in the Course of Five Diachronic Processes," in Lee Thayer, et. al., eds., Toward A Reconceptualization of Knowledge Utilization in Education. University of Iowa, Center for Advanced Study of Communication.

Reprinted:

Item (g) in bibliography, in C.D. Needham, ed., Communication and Bibliographic Organization in the Social Sciences, Wash.: Microcard Editions, in press.

Commissioned chapter in the hands of symposium editor:

"Concepts and the Attributes which Specify Their Meanings," in Robert B. Smith, ed., Social Science Methods: A New Introduction. Free Press.

Invited lectures and participation:

University of Montreal, 12/4 - 5/73
Conference on New Directions in Mass Communication Research, Arden House, 5/27-29/73
University of Ghent, (Belgium), 5/22/73

Herbert Menzel

Institute for Advanced Study, Vienna, 5/2-11/73
University of Amsterdam, lecture 12/12/72 and 12/15/72
International Experts Conference on Communication in
Rehabilitation, Niedersessmar, Germany 12/4-8/72.

Sponsored Research:

Senior Investigator, Test and Evaluation of Public
Service Uses of Cable Television, Reading, Penn-
sylvania, National Science Foundation, Division of
Advanced Productivity Research & Technology. 1974 -

Inter-university activity:

Associate of University Seminars on Public Communication
and on Basic and Applied Social Research, Columbia
University

Consultations for:

Communications Institute, Academy of Educational Develop-
ment, April-May 1975
Rockefeller University, June 1974
Columbia University, School of Public Health, May 1974
Rehabilitation International, through February 1973
National Broadcasting Company, November 1972
National Institute of Education, November 1972
American Dental Association, September 1972

Selected Publications:

"Unplanned Acquisition of Information in the Experience
of Polymer Chemists," IEEE Transactions on Professional
Communications, Vol. 15, pp. 39-42, 1972.

"Quasi-Mass Communication -- a Neglected Area," Public
Opinion Quarterly, 1971, 35, pp. 406-409.

"Quasi-Mass Communication and the Active Audience,"
in H.I. Hoffman, ed., (Proceedings of the) Conference on
Communications in Community Health, Washington: Ameri-
can Public Health Association, 1969.

(with Aims C. McGuinness, Esther Fleishman, and Jean Garten,
"The Medical Television Audience of the New York Academy of
Medicine after Four Years," Bulletin of the New York
Academy of Medicine, 1968, 44, 332-45.

"Informal Communication in Science: Its Advantages and
its Formal Analogues," in E. Montgomery, ed., The
Foundations of Access to Knowledge, Syracuse University
Press, 1968.

"Planning the Consequences of Unplanned Action in Scientific Communication," in Anthony de Reuck and Julie Knight, eds., Ciba Foundation Symposium on Communication in Science: Documentation and Automation, London: J. & A. Churchill, Ltd., 1967, pp. 57-71.

"Scientific Communication: Five Sociological Themes," American Psychologist, 1966, 21, 99-1004.

"Can Science Information Needs be Ascertained Empirically?" in Lee Thayer, ed., Communication: Concepts and Perspectives (Proceedings of the Second International Symposium on Communication Theory and Research), Washington, D.C., Spartan Books, 1966.

(with James Coleman and Elihu Katz:) Medical Innovation -- A Diffusion Study, Bobbs-Merrill, 1966.

(with Raymond Maurice and Aims C. McGuinness, M.D.): "Effectiveness of the Academy's Televised Clinical Science Seminars," Bulletin of the New York Academy of Medicine, 1966, 42, pp. 679-714.

"Sociological Perspectives on the Information Gathering Practices of the Scientific Investigator and the Medical Practitioner," David McCord, ed., Bibliotheca Medica: Physician for Tomorrow, Dedication of the Countway Library of Medicine, Boston: The Harvard Medical School, 1966.

(with Raymond Maurice and Aims C. McGuinness, M.D.): "Evaluation of the New York Academy of Medicine's Television Programs," Journal of Medical Education, 1966, 41, 826-43.

"Information Needs and Uses in Science and Technology," Chapter in Carlos Cuadra, ed., Annual Review of Information Science and Technology, Volume I, New York: John Wiley and Sons, 1966.

(with Aims C. McGuinness, M.D., Candace Rogers, & Una R. Bodden:) "Continuation of Medical Education by Open Circuit TV -- the Audience Reached," J. of Medical Education, 1964, 39, pp. 735-45.

Herbert Menzel

(with Kenneth J. Lenihan and Sydney S. Spivack:) Utilization of the Regents' Educational [Classroom] TV Broadcast Programs. Education Department, State of New York, Albany, 1963.

"The Information Demands of Current Scientific Research." Library Quarterly, 1964, 34, pp. 4-19.

(with Paul F. Lazarsfeld:) "Mass Media and Personal Influence," in Wilbur Schramm, ed., The Science of Human Communication, Basic Books, 1963.

"Innovation, Integration, and Marginality: Facts and Problems from a Survey of Physicians," American Sociological Review, October 1960, 25, pp. 704-13.

(with Paul F. Lazarsfeld:) "On the Relation between Individual and Collective Properties," in Amitai Etzioni, ed., Complex Organizations -- A Sociological Reader. Holt, 1961.

"Planned and Unplanned Scientific Communication," Proceedings of the (1958) International Conference on Scientific Information. National Academy of Sciences -- National Research Council, 1959, pp. 199-243.

"The Flow of Information on Current Developments in Three Scientific Disciplines," Federation Proceedings, 1957, 16, 706-711.

"Public and Private Conformity under Different Conditions of Acceptance in the Group," J. of Abnormal and Social Psychology, 1957, 55, 398-402.

(with James Coleman and Elihu Katz:) "Social Process in Physicians' Adoption of a New Drug," J. Of Chronic Diseases, 1959, 9, pp. 1-19.

(_____:) "Dimensions of Being 'Modern' in Medical Practice," J. of Chronic Diseases, 1959, 9, pp. 20-40.

(_____:) "The Diffusion of an Innovation among Physicians," Sociometry, 1957, 20, 253-270.

Herbert Menzel

(with Elihu Katz:) "Social Relations and Innovation in the Medical Profession -- the Epidemiology of a New Drug," Public Opinion Quarterly, 1955, 19, 337-52.

(with Edward A. Suchman:) "The Interplay of Demographic and Psychological Variables in the Analysis of Voting Surveys," in Paul F. Lazarsfeld and Morris Rosenberg, eds., The Language of Social Research, 1955, 148-55.

"A New Coefficient for Scalogram Analysis," Public Opinion Quarterly, 1953, 17, 268-80.

"White Collar Crime and the Ecological Area Argument," Midwest Sociologist, 1951.

"Comment on Robinson's 'Ecological Correlations and the Behavior of Individuals,'" American Sociological Review, 1950, 15, 674.

Technical Reports:

The Flow of Information among Scientists -- Problems, Opportunities, and Research Questions, 1958. Prepared for the National Science Foundation. Mimeographed, Bureau of Applied Social Research. Technical Report 144,390 PB, National Technical Information Service, Springfield, Va., 22151.

Review of Studies in the Flow of Information among Scientists, 1960. Prepared for the National Science Foundation. Mimeographed, Bureau of Applied Social Research. Technical Report 156, 941 PB, National Technical Information Service, Springfield, Va., 22151.

(with Raymond I. Maurice) Physicians' Local Advisory Systems, 1969. Prepared for the National Institute of General Medical Sciences under Contract PH 108-66-65. Mimeographed, Bureau of Applied Social Research.

(with Julian Nixon) Formal and Informal Satisfaction of the Information Requirements of Chemists, 1970. Prepared for the National Science Foundation under Grant GN 185. Mimeographed, New York University.

VITA

Elizabeth Durbin
215 West 88 Street, Apt. 3D
New York, N.Y. 10024

EDUCATIONAL BACKGROUND

- 1963-1970 Ph.D. in Economics, 1971 Columbia University,
New York Dissertation Title: Family Instability,
Labor Supply and the Incidence of Aid to De-
pendent Children
Sponsor: Dr. Jacob Mincer
- 1958-1960 Industrial & Labor Relations School, Cornell
University, Ithaca, New York
- 1955-1958 Oxford University, Somerville College, England
BA Honours in Politics, Philosophy and Eco-
nomics.

Academic Honors:

Columbia Ph.D. thesis defended with distinction,
1970
President's Fellowship, Columbia University,
1965-1968
Fulbright Travel Grant, 1958-1960

TEACHING EXPERIENCE

Feb. 1970 to date Associate Professor of Economics, Graduate
School of Public Administration, New York
University.

A. Graduate Courses

1. Economics Department: Economics of
Human Resources
2. Graduate School of Public Administration:
Urban Poverty
Urban Labor Markets.

B. Undergraduate Courses

1. Economics Department: Economic Principles,
Intermediate Microeconomics, Honors
Seminar, Economics of Poverty, Urban
Economics.
2. Metropolitan Studies Program: Senior
Seminar, Internship Seminars

Elizabeth Durbin

1958-1960 Graduate Teaching Assistant in Labor Economics,
Cornell University.

RESEARCH EXPERIENCE

- 1974 to date Senior Investigator, Test and Evaluation of
Public Service Uses of Cable Television, Reading,
Pennsylvania, National Science Foundation,
Division of Advanced Productivity Research &
Technology.
- 1970-1971 Staff Director, Task Force in Income Maintenance
of National Assembly for Social Policy & Develop-
ment. Chairman: Robert Nathan
- 1969-1971 Consultant, New York City RAND Institute.
Conducted study of effects of welfare on labor
supply and the relationship to family instabili-
ty for New York City's Economic Development
Administration.
- 1966-1969 Associate Research Scientist, New York University,
Graduate School of Business Administration.
Director: Dr. Oscar Ornati. Wrote report for
New York City's Human Resources Administration
on public assistance and the City's labor market.
- 1962-1965 Research Analyst, National Bureau of Economic
Research. Directors: Dr. Irving B. Kravis and
Dr. R. E. Lipsey. Worked on study of inter-
national price competitiveness.
- 1961-1962 Economist 1. Department of Labour, Ottawa,
Canada. Director: Dr. George Saunders.
Wrote study on labor costs in manufacturing
industries in Canada.
- 1960-1961 Research Assistant, London School of Economics.
Director: Professor E. H. Phelps Brown. Worked
on study comparing international wage/income
ratios.

Elizabeth Durbin

ADMINISTRATIVE EXPERIENCE

September 1971 to date Director of Metropolitan Studies Program. A new undergraduate program in the College of Arts & Science which offered a State approved major after January 1972. Responsible for developing curriculum, hiring faculty and staff, supervising internship program, as well as all administrative details. Obtained two contracts for students to study garbage problems on the Lower East Side for New York City's Environmental Protection Administration.

1970-1972 Staff member, Urban Affairs Center, New York University. Director: Professor S.M. Miller

1970 to date Appointed member of numerous departmental and University committees. Elected to following faculty committees: Educational Policy Committee, Student Life Committee.

LANGUAGES Fluent French and Italian

REFERENCES Dean Bayley Winder, New York University
Professor S. M. Miller, Boston University
Professor IRving B. Kravis, University of Pennsylvania
Professor William J. Baumol, New York University
Professor Jacob Mincer, Columbia University

PUBLICATIONS

"Vicious Cycle of Welfare: Problems of the Female-Headed Household in New York City," Chapter in Cynthia B. Lloyd (editor) Sex, Discrimination and the Division of Labor, Columbia University Press, forthcoming.

"Work and Welfare: The Case of Aid to Families with Dependent Children," Journal of Human Resources, Volume III, Supplement 1973.

Income Maintenance and Income Distribution, in collaboration with S. M. Miller. A report for Task Force on Income Maintenance. 1971.

Elizabeth Durbin

PUBLICATIONS (con't)

The Impact of Welfare on Labor Force Participation in New York City, 1969. RAND report to New York City Economic Development Agency, 1971.

Welfare Income and Employment, Praeger Special Studies, 1969.

"Education and Earnings in Ten Urban Ghettos: A Discussion," American Economic Association Proceedings, December 1969.

"Measuring Welfare Loads: Comment," American Statistical Association Proceedings, August 1969.

WORK IN PROGRESS

"Women and the Economics of Crime." Research proposal submitted to Ford Foundation.

V I T A

Eileen Connell
101 - I Colonial Drive
Shillington, Pennsylvania 19607

EDUCATION

1969 - 1972 New York University - B.F.A.
1966 American High School, Mexico City

LANGUAGES English
 Spanish

OCCUPATIONAL RESUME

1975 - System Coordinator, Test and Evaluation of
 Public Service Uses of Cable Television,
 Reading, Pennsylvania, National Science Founda-
 tion, Division of Advanced Productivity Research
 & Technology.

1973 Director, Regional Access: Alternate Media
 Center at New York University School of the
 Arts.

1971 Fall Production Manager, Alternate Media Center at
 New York University School of the Arts.

1971 Spring Producer, Alternate Media Center at New York
 University School of the Arts.

WRITING

1973 Alternate Media Center "Access Workbook" a how-
 to-do-it text on public access based on Alter-
 nate Media Center's experience. Managing
 Editor and contributor.

1973 Alternate Media Center "Catalogue - Second
 Edition." Brief descriptions of the projects
 in Reading, Pa.; Bakersfield, Cal.; Orlando,
 Fla.; DeKalb, Ill.; and New York City, with
 tape descriptions written by the individual
 producers. Managing Editor.

1972 Alternate Media Center "Catalogue - First Edition." Descriptions of projects undertaken by Alternate Media Center during its first year of operation. (Assisted in production.)

COMMUNITY ORGANIZING

1973 DeKalb, Illinois. Organized public access workshop which led to creation of decision-making and administrative structures for supervision of public access channel.

1972 Bakersfield, California. Trained community members in the use of public access workshops for the development of broad-based community programming.

TEACHING POSITION

1974 - 1975 Instructor: Use of 1/2" Video Tape in Communications; New York University School of the Arts.

CONSULTANCIES

League of Women Voters of the State of Ohio.
Academy for Contemporary Problems.
American Friends Service Committee, Palo Alto, Calif.
Community Resource Service, Department of Justice.
U.S.I.S., Washington, D.C.
DeKalb Public Access Center.
Orlando Public Access Center.
Bakersfield Public Access Center.
Tulsa Public Library.
League of Women Voters, New York City.

COMMITTEES

N.Y.U. Library Media Committee (appointed.)

Proposals:

1971 85th Street Community Video Center (Co-author.)

1970 Upper West Side Video Access Center.

TRAINING PROJECTS

- 1973 (Feb. - June) DeKalb, Illinois Access Center. Trained individuals and groups in the technical aspects of half-inch video tape recorders as well as studio equipment.
- 1972 (Oct. - December) Bakersfield, California Access Center. Trained individuals in the use of half-inch video tape recorders; trained on-going coordinator.
- 1972 (June - August) Hoboken, New Jersey Model Cities Access Project. Trained individuals in the use of half-inch video tape recorders, meanwhile developing concepts for community use of cable.
- 1971 (Nov. - December) 85th Street Community Center (New York). An experiment with the community use of cable, and half-inch technology for their particular needs.
- 1971 (Sept./October) Stuyvesant High School (New York). Training in use of cable to stimulate discussions within the school itself.
- 1971 (June - August) Washington Heights Project (New York.) An exploration of possible uses of half-inch video tape recorder technology and cable in the community.
- 1970 - 1971 Video Tech. Developing uses of half-inch video tape recorder equipment on New York University campus.
- 1970 OMI (Operation Move In.) Experiment in the uses of half-inch video tape equipment as a mediating tool in a community conflict having to do with housing in New York City's Upper West Side.

VITA

Judith M. Fields
60 East 8th Street
New York, New York 10003

Social Security No. 138-34-4612

EDUCATION

B.A. (English) 1965	New York University Washington Square College
M.U.P. (Urban Planning) 1973	New York University Graduate School of Public Administration
Ph.D. (Economics) candidate	New York University Graduate School of Arts & Sciences

PROFESSIONAL EMPLOYMENT

Research Scientist 1974 New York University	Test and Evaluation of Public Service Uses of Cable Television, Reading, Pennsylvania, National Science Foundation, Division of Advanced Productivity Research & Technology.
Economic Consultant 1974- 1975	National Urban League. Researched and wrote the N.U.L. Position Paper on the credit income tax.
Research Assistant 1974- 1975	To Prof. Elizabeth Durbin, N.Y.U. Department of Economics. Worked on the update of a study of welfare incidence, family insta- bility and labor supply.
Caseworker 1965-1970	New York City, Dept. of Social Services, Kingsbridge Experimental Welfare Center. Participated in a series of experiments with the administration and delivery of social services in connection with federal and state income programs.

Judith Fields

PUBLICATIONS

Income Maintenance - The N.U.L. Position, a staff report
in collaboration with Elizabeth Durbin.

"A Comparison of Intercity Differences in the Labor Force
Participation Rates of Married Women in 1970 with 1940,
1950 and 1960." forthcoming in the Journal of Human
Resources.

VITA

Ms. Louanne Kennedy

Home Address:

135 Woodridge Place
Leonia, New Jersey 07065

Date of Birth: March 19, 1939

Place of Birth: Wilmerding,
Pennsylvania

Educational Background:

Social Security No.: 208-28-4278

Bedford College, University of London, Sociology as
Applied to Medicine, 1974-1975

New York University

Ph.D. Candidate - Dissertation in
Progress

M.A. (Sociology) June, 1973

B.A. (Sociology) June, 1969

University of Pittsburgh

No Degree Granted, 1957-1959

Fellowships and Honors:

Training Grant; Health Services Research (Principal Investigator, Eliot Friedson); New York University and Montefiore Hospital, Bronx, New York; Project Director, 1972-1974.

Woodrow Wilson Dissertation Fellow, 1972-1973

University Fellow, Graduate School of Arts and Sciences, 1972.

Research Assistant, Department of Sociology, 1971-1972

Coat of Arms Society, Washington Square College, 1969

Research Interests:

Dissertation: Blood Banking in the United States:
An Historical and Ecological Interpretation

This research examines the historical conditions that give rise to the current blood banking complex in the United States. It examines the dual nature of the American system, voluntary and commercial, as it developed within the framework of American medicine.

Louanne Kennedy

Some areas of the United States have adopted a social responsibility ethic in which blood donation is on a voluntary basis; other areas have adopted an individual responsibility ethic where blood is treated as a commodity relation. This process has been non-random and the research concentrates on the types of areas where this has occurred. Utilizing an ecological perspective an examination of 300 areas provides some understanding of the distribution of these organizations throughout the country. The underlying economy, the role of legislation, professional and bureaucratic control over blood banking is also examined in a selected sample of 12 areas which were studied intensively.

Specializations: Research Methods, Medical Sociology, Organizations, Professions, Theory

Teaching Experience: Adjunct Assistant Professor, Fordham University (Complex Organizations), 1973-1974

Research Experience: Research Assistant, New York University, assisting students in data collection, processing and use of computers

Research Associate, Joint Apprenticeship Program Workers Defense League, New York, 1969-1970. Responsibilities: Interviewing trade union leaders and construction workers on discrimination against minorities; questionnaire design and data analysis

Papers and Presentations:

Kuhns, W. J. and Kennedy, Louanne, BLOOD in Colliers Year Book, 1975, Macmillan Educational Corporation, N.Y., 1975

Kennedy, Louanne and Seron, Carroll, "Historical and Ecological Analysis of Organizational Formations: A Need for a Combined Approach", Organizations Session, American Sociological Association, Annual Meetings, Aug. 1975.

Kennedy, Louanne, "Blood Banking in the United States: An Historical Interpretation", British Sociological Association, Medical Sociology Group, 6th Annual Conference, York, England, 1974

Kessler, Ronald and Kennedy, Louanne, "Problems in Attracting Repeat Donors", Transfusion, (forthcoming)

Professional Organizations:
American Sociological Association
British Sociological Association

Sociologists for Women in Society, N.Y. Metropolitan Chapter

JODY BROWN
910 West End Avenue, #8F
New York, New York 10025

(212) 663-3072

Date of Birth: June 7, 1944

EDUCATION

- 1975 PhD candidate (Social/Personality Psychology),
City University of New York
- Feb 1972 M.A. (Psychology & Education), Teacher's College,
Columbia University, New York City
- 1967-68 Alliance Francaise, Paris, France - French language
study in Paris, travel in Europe
- June 1967 B.A. (Int'l Relations), School of International
Service, American University, Washington, D.C.
- 1962-64 University of Hawaii, Honolulu, Hawaii - first
two years before transferring to American University

PROFESSIONAL EXPERIENCE

Research

April 75-present: Senior Research Staff Assistant, Bureau of Applied Social Research, Columbia University, 605 W. 115 St., New York City. Evaluation study of the Metropolitan Regional Council Interactive Television System (Dr. Stanley Heginbotham, Dr. Geraldine Alpert). The project involves the planning, implementation and evaluation of three paired conferences--live and televised --to try and assess the impact of interactive television on information dissemination and retention and inter-governmental communication.

Duties include: interviewing local government officials and federal and state representatives of various agencies in the New York metropolitan area; background research on local government; development of conference topics; primary responsibility for background research on the aging; primary responsibility for the development of an observation form; questionnaire design and development with the other staff members.

Jody Brown

Nov 72-Jan 75: Research Coordinator, Symptom Tolerance Study, Community Research Program, 537 LaGuardia Place, New York City 10012 (Dr. Dolores Kreisman).
Three-year NIMH funded longitudinal study conducted at 3 hospitals--the effect of family symptom tolerance and attitudes toward the mental health profession on the rehospitalization rates of schizophrenic patients.
Duties included: primary responsibility for carrying out the fieldwork aspects of the study, participating in policy decision-making with the two principal investigators, acting as liaison with hospital research and administrative staff, reviewing records and collecting the sample, supervising data collection and a staff of 20 interviewers, one bookkeeper/coder and three graduate students, writing reports, coding, giving structured interviews to families and patients, learning statistical methods for analysis of the data.

July-Nov 72: Instructor, Adult Education - Career Education Development Center (Work Incentive Program), Economic and Manpower Corporation, 500 Eighth Avenue, New York City. Duties: teaching the high school equivalency class (math, grammar, literature, science, social studies) and career counseling.

April-Sept 72: Freelance Research in Psychology & Education: Child Advocacy-research and literature review; physical plant planning for a nursery school; play-testing toys (Prof. D.M. Irwin, Teacher's College)

Data collection for research project on 'desirability of pictures' affecting results of picture tests used in testing young children (Ellen Franklin, Ph.D. candidate, School Psychology, Teacher's College)

Data collection for research project: interviewing NY City high school students (C.R.M.D. classes) re Kohlberg's moral development theories (Bennet Rackman, Ph.D. candidate, Special Education, Teacher's College)

Research for psychology textbook in child development (Julie Small, College Division, Appleton-Century-Crofts Publishers)

Feb-April 72: Coordinator and researcher for Early Language Program (jointly sponsored by Department of Neurology

Jody Brown

and Teacher's College, Columbia University): research on early intervention programs in language, emphasis on parent involvement - extension of an early childhood practicum given in the fall of 1971 at Teacher's College (Mrs. Mary Masland)

Clinical

- Oct 74-Feb 75: Intake Interviewer: Community Guidance Service, Inc., 140 West 58th Street, New York City. Write up presenting problems and a personality sketch and psychological evaluation for referral to therapists
- Oct 73-present: New York Association of Feminist Therapists: peer supervision group - meets biweekly for case supervision and discussion of feminist issues in therapy
- Oct 72-present: Women's Psychotherapy Referral Service, Inc. Member and intake interviewer. Meets monthly for discussion of theories and issues in feminist psychology and psychotherapy and presentation and discussion of cases
- Oct 72-Feb 75: American Institute for Psychotherapy and Psychoanalysis, 140 West 58th Street, New York City. Courses included: Freud and his followers, history and theory of psychoanalysis, psychoanalytic theory of sexuality, gestalt therapy, the active psychotherapies, marital and family therapy

Conferences

- April 1973: Chairperson, panel on Child Advocacy, Early Childhood Education Council Spring Conference, Pace College, New York City

PROFESSIONAL AFFILIATIONS

Association for Humanistic Psychology
Association for Women in Psychology
New York Association of Feminist Therapists
N.O.W. Psychology and Psychotherapy Committee - Chairperson,
Steering Committee, 1973
Women's Psychotherapy Referral Service

References furnished upon request.

VITA

MAURICE D. DEWBERRY

Born: November 2, 1905, Dialville, Texas

Present Residence: 2401 Pennsylvania Ave., Philadelphia,
Pa., 19130

Social Security No.: 226-58-6030

EDUCATIONAL BACKGROUND

- 1930 B.A. Stephen F. Austin State University, Nacogdoches, Texas
- 1932 Graduate Study - Southern Methodist University, Dallas, Texas
- 1945 Special Seminar - Harvard University
- 1967 Special Seminar - University of California, Berkeley, Campus
- 1972 Special Seminar, Brookings Institute

PROFESSIONAL EMPLOYMENT

- 1924-1929 Principal of Public School
- 1929-1934 Superintendent of Public School
- 1934-1935 Chief Field Representative, National Recovery Administration
- 1935-1936 Supervisor of Employment, Works Projects Administration
- 1936-1937 District Manager, Social Security Administration
- 1937-1942 Assistant Regional Representative, Social Security Administration
- 1942-1965 Regional Representative, Social Security Administration
- 1965-1975 Regional Commissioner, Social Security Administration (Retired July 31, 1975)
- August 1 Special Assistant to Associate Commissioner of to present Social Security Administration

AWARDS

- 1958 Director's Citation by Social Security Administration
- 1963 Supervisor Service Award by the Secretary of the Dept. of Health, Education and Welfare
- 1973 Ewell T. Bartlett Memorial Award for Humanity in Government
- 1975 Commissioner's Citation by the Social Security Administration

**Public Service
Uses of
Interactive Television**

INTERACTIVE TELECOMMUNICATIONS RESEARCH

NEW YORK UNIVERSITY/READING, PENNSYLVANIA

New York University/Reading, Pennsylvania

- Alternate Media Center,
School of the Arts,
New York University
- Graduate School of
Public Administration,
New York University
- The City of Reading
- Berks TV Cable Co.
- Berks County Senior
Citizens Council
- Reading Housing Authority

87 West 3rd Street
New York, N.Y. 10012
(212) 598-7871/7872/7873

c/o Berks TV Cable Co.
P.O. Box 107
Reading, Pennsylvania 19603
(215) 374-3065

This project is supported by a grant from the Division of
Advanced Productivity, Research, and Technology,
National Science Foundation.

INTRODUCTION

The New York University-Reading Consortium is designing and installing an experimental two-way cable television system for the use of the elderly population of Reading, Pennsylvania. The system consists of three interconnected neighborhood communication centers which are intended for the use of the elderly and the social agencies that serve them. Programming will consist of daily interactive sessions. The goal of these sessions will be to facilitate information exchanges among the elderly population and public and private agencies in Reading.

The project represents the collaborative efforts of New York University, the City of Reading, the Berks TV Cable Co., the Berks County Senior Citizens Council, and the Reading Housing Authority.

Funded by a grant from the National Science Foundation in May 1975, the project extends over a thirty-month period. Programming will begin in January 1976. The aim of the research is to assess the impact of this two-way cable television system on the delivery of public services to a selected segment of the elderly population.

This report gives a general perspective on the setting and design of the project. The development and operation of the three neighborhood communication centers is described, followed by a discussion of the experiments to be conducted through the interactive system.

BACKGROUND

The NYU-Reading Consortium was formed in January 1974 to plan social and public uses for a two-way cable communication system in Reading, Pennsylvania. An initial decision was made to focus the research on the elderly population in view of the fact that the elderly are major consumers of social and municipal services. Moreover, they tend to have relatively less mobility than other age groups; thus, new technologies that could allow substitution of communication for travel and offer many services in convenient locations are of particular importance to the aged.

By June 1975, a detailed implementation and research design was drawn up as a joint effort of the Alternate Media Center at New York University's School of the Arts and the Graduate School of Public Administration at New York University. The task was accomplished with the advice and consultation of the Reading members of the consortium: Berks TV Cable Co., the City of Reading, the Reading Housing Authority, and Berks County Senior Citizens Council.

The Implementation Team

The Alternate Media Center staff is responsible for implementation. This includes establishing the neighborhood communication centers, operation and development of

the interactive system, and liaison with the local arm of the Reading Consortium and the research team.

In 1971, the Alternate Media Center (AMC) was established in the School of the Arts at New York University to explore the skills, technology, constraints, and commitments that would effect the use of cable television channels by local citizens and groups. That year, more than half the programs appearing on public access channels in New York City were produced by people trained in an AMC workshop using AMC-portable videotape equipment.

Similar workshops have been developed by the AMC in several cities throughout the country. Among major AMC publications is a two-volume handbook and guide for developing community workshops, entitled, *The Access Workbook*.

The Research Team

The research team has extensive experience in the design and execution of interdisciplinary research; it brings together a diverse set of skills in the social sciences, communication technology, and policy-oriented research. Its members have all participated in previous research related either to the provision of public services or to the introduction of a new technology into local communities.

The evaluative instruments have been cooperatively designed and the data collection techniques have been formulated in consultation with public agencies in Reading. The interdisciplinary aspects of this study extend to the interaction between the research and implementation teams through which the system will be adapted and improved in response to research findings.

The Advisory Board

An advisory board has been created to provide regular feedback to the project staff on the design of the implementation and the implications of the research findings. The advisory team is comprised of specialists in cable television, the social sciences, and social service delivery. The members of the board will meet on an informal basis during the course of the project and will also have full board meetings at regular intervals.

The Site

Reading is a city of 88,000, located approximately fifty miles northwest of Philadelphia. The county seat of Berks County, Reading has traditionally been a manufacturing center. The elderly comprise 15.8 percent of the population.

As a site for this experiment, Reading has several distinctive features: it has a city-wide cable system on which two-way transactions are being transmitted regularly. The cable system, municipal government, local colleges, and many Reading citizens and organizations

have worked with the Alternate Media Center since 1971. In addition, the city has been responsive to the needs of its senior citizens, providing public housing for approximately 10 percent of the elderly in five high-rise apartments and two garden apartment developments. The city has also provided supplementary funds to help build the Horizon Center for senior citizens.

THE NCC SYSTEM

Implementation plans are based on the establishment of three interconnected neighborhood communication centers (NCCs) to which senior citizens have ready access. These centers will have the capacity for both transmitting and receiving broadband video and audio signals.

One NCC is in Horizon Center, a multi-service center for the entire elderly population of the county. The second is in Kennedy Towers, a high-rise building exclusively for senior citizens. The third is in the community room of Hensler Homes, a mixed-population garden apartment complex, with about 25 percent elderly residents.

In addition, the homes of two-hundred senior citizens, which are beyond the range of easy access to any of the centers, will be equipped with converters that enable them to receive one-way transmission of the interactions on the system and to join in by telephone.

All participants will be trained to operate the system for their own use. This training includes planning topics for sessions, researching program material, preparing and producing the sessions, and scheduling the system itself. To the extent that it is feasible, senior citizens and other participants will also perform operational tasks, such as operating cameras, tape recorders, and video and audio switchers.

The concept of user-generated programming complements the plan for gradual user-operation of the NCC system. If the participants are to undertake responsibility for operating the system, it follows that they should be given every opportunity to use it for purposes that they consider important.

PROGRAMMING

Programming has been planned to take advantage of the unique features that distinguish the neighborhood communication center system from familiar broadcast models: it is comprised of neighborhood centers and not of individual home terminals; it is interactive.

In such a system, there is no audience: there are participants. There are no TV programs, as they are usually known; there are types of teleconferences. Two basic forms of programming are planned: regular, daily, open-ended sessions; and special large-scale telemeetings. In the latter, the elderly population can communicate directly with decision-makers,

i.e., the Mayor, the Police Chief, or officials of the County Medical Society. Telemeetings are planned in cycles to give all the interactors the opportunity to present information, formulate questions, discuss problems, and establish policy solutions.

Although programming priority will be given to topics associated with primary research objectives, such as outreach for selected social service programs and benefits, it will not be limited to these subjects.

The program schedule is open ended to accommodate the additional programming that is expected to be generated by both elderly participants and agency personnel as they become familiar with the system and begin to perceive further use for it. The range of this user-generated programming extends from light entertainment to education in a variety of areas.

The system is equally accessible to agency personnel and municipal officials. The availability of portable terminal equipment will provide a parallel opportunity to generate programming directly from offices as well as from the centers. Training similar to that of the elderly is being offered to social service and municipal officials as part of the implementation plan.

Early indications suggest the development of teleconferencing between public officials and private sector officials of hospitals and banks as potentially useful applications, since there are a number of issues that are important to the elderly in which communication and coordination between the public and private sectors is mutually beneficial. Super-market chains process food stamps, doctors process Medicaid, banks process direct banking deposits of benefit checks; telemeetings on such topics are planned.

RESEARCH FRAMEWORK

The primary purpose of the research design is to determine the costs and benefits of using a system of interconnected neighborhood communication centers (NCCs) for the delivery of public services.

The research will analyze the cost effectiveness of the interactive system in the delivery of specific services and the overall costs of setting-up and operating the NCC system. The social and political impacts on senior citizens and public and private organizations will be studied as well.

A distinctive characteristic of this system is that its users will themselves be involved in the design of the software of the system; thus, the users will actually be part of the experiment. An evaluation of the communication processes that they develop in using the interactive system is an important component of the research.

The nature of the NCC system presents significant challenges for the experimental design and a unique opportunity to develop the appropriate measures for evaluating such a system in the field. The implications of the interactive system for the experimental

design have been considered in terms of the following factors:

1. The experimental applications of the system
2. The relation of the system to service delivery
3. The flexibility of programming
4. The unanticipated effects of introducing a new technology.

The Experimental Applications of the System

The NCC system is designed to be used in the delivery of services to the elderly in a wide array of different applications. The system itself has unique opportunities for interaction which are expected to affect different services in substantially different ways. This means that the research design is constrained from making simple experiments in providing the same service in different ways. The goal of the design, therefore, is to select an appropriate series of experiments that will assess the use of the NCC system for the delivery of specific services.

The Relation of the System to Service Delivery

The basic method for assessing the impact of the NCC system on service delivery is on a before and after basis. Careful analysis of the operation of various services will be conducted on a continuing basis, so that the process of effecting change, as well as the overall impacts, can be evaluated. In addition, the three NCCs have been located in different kinds of residential configurations on the hypothesis that they represent inherently different communication systems.

Control and experimental groups have been selected for each. A further group of elderly people will be equipped with converters so that they can view the interactive programs one-way. Therefore, it will also be possible to evaluate the different impacts of service delivery, by center, and to make comparisons between the service delivery in three contexts: two-way interactive; one-way viewing of interactive programming; and finally, of those with no access to the system at all.

The Flexibility of Programming

The participation of the elderly in the development of programming is designed to assure that the system is responsive to the needs of the clientele it is supposed to serve. This means that the programming decisions must be reasonably adaptable at the outset. The likelihood of successful experimentation is thus enhanced by the capability of modifying the programming to meet the needs and interests of both the elderly and the service agencies as they emerge.

The Unanticipated Effects of Introducing a New Technology

Often the most important effects of introducing a new technology are those that, by their

very nature, cannot be foreseen. Therefore, the experiments described here should not be considered the only experimental results of the NCC system. The research is designed to assess both the impact of the system on specific service delivery functions as well as the qualitative and quantitative effects of the overall system.

EVALUATION OF THE SYSTEM

Evaluation of the two-way system falls into four broad categories:

1. an assessment of the cost-effectiveness of an interactive system in the delivery of specific public services;
2. an analysis of the overall costs of the NCC system;
3. a study of the political and social impacts of the system; and
4. a study of the operation and development of the system as a whole.

Evaluation of the NCC System in the Delivery of Public Services

The impact of the NCC system on the delivery of public services will be assessed through a series of experimental applications. These are outreach experiments, information experiments in social service agencies, and service delivery experiments in a multi-service setting.

Outreach Experiments

Medicaid Outreach

A substantial number of elderly people in Reading are eligible for assistance under the federal Medicaid health assistance program. Despite this, only a small proportion of the elderly are actually enrolled in Medicaid, or are receiving the full range of benefits at the present time. The goal of the programming is to induce the elderly to take advantage of those services to which they are entitled.

The change of enrollment in, and use of, Medicaid benefits will be traced for treatment and control populations before, during, and after NCC programming. The correlated results will reflect NCC programming effectiveness.

Food Stamps Outreach

The Food Stamps program is another target for outreach programming. Many elderly people are eligible for food stamps, yet a relatively small percentage of the eligible population actually participate in the program.

The inadequate dispersal of information on eligibility requirements, scope of available benefits, and practical applications have been found to account for the low level of participation in the Food Stamps program. The strong stigma of "accepting charity" associated with this program is an additional factor that contributes to low participation.

NCC programming is intended to create a clearer understanding of the Medicaid and Food Stamps programs and to reduce their negative associations in an effort to increase participation rates. Research will test the effectiveness of the NCC system in accomplishing these tasks.

Housing Rehabilitation/Code Compliance Outreach

The city of Reading is initiating major housing rehabilitation and code enforcement activation as part of its community development program. Elderly residents in central city neighborhoods are characterized by a high level of home ownership. At the same time, home maintenance is a difficult and increasingly expensive process. The city government, in order to maintain viable center-city neighborhoods, is involved with preventing deterioration and decay of housing. Consequently, the elderly are important targets for the city's code enforcement and housing rehabilitation activities.

NCC programming will focus on promoting an understanding of the code enforcement system, the procedures for obtaining loans for home repairs, and the techniques for financing and performing home maintenance. Awareness of, and access to, volunteer assistance will be made available through interactive programming as well.

Information Experiments in Social Service Agencies

Changes in procedures, rules, regulations, and forms in programs such as Social Security (OASI), routinely cause confusion and disruption for both the elderly and the agencies. Announcements of innovations or expanded options that are communicated through the mail frequently produce a barrage of requests for clarification and assistance in the form of phone calls and in-person visits to the agency involved. Thus, agency staff time is significantly burdened. In October 1975, a new option, direct banking of social security checks by mail, will be made available to the elderly. NCC programming will provide information regarding participation in the new program. It is expected that the supply of detailed information and special assistance to the treatment population will reduce the demands made on agency staff and expand the number of elderly people who avail themselves of this option.

Since the banking option is a prototype for a class of innovations, it is the first of a series to be programmed on the NCC system. Response rate of the treatment population will be compared with the response rate of the control group; agency visits and phone calls will be tracked for each, thus indicating NCC programming effectiveness.

Under the Medicaid and Medicare health programs, recipients should file claim forms with some regularity in order to collect benefits. The claim forms are complex and the majority of the elderly must travel to the agency for help in completing them. The tendency for recipients, especially with Medicare, is to allow claims to accumulate for an entire year and to file them all in one visit. This generally causes a disruption of work flow for the agency staff and ultimately reduces the number of claims the elderly file. Clients will learn how to fill in these forms via the interactive system. A change in staff time spent on claim-completion aid and in the average frequency of claims filed for the treatment and control populations will reflect the effectiveness of NCC programming in this area.

Multi-Service Delivery

The Berks County Senior Citizens Council (BCSCC) provides a wide range of services, programs, and activities to the elderly. This organization is located in Horizon Center which is an NCC site. Operating in this context, the NCC system will perform the following three functions: (1) NCC programming will furnish the elderly in the treatment population with information on BCSCC activities and services; (2) the NCC system will be used for cable presentation of BCSCC activities and meetings; and (3) the NCC system will be used by BCSCC to deliver selected counseling and information services that ordinarily must be delivered in person. The cost and effectiveness of the NCC system in these three applications will be compared both with previous and simultaneous efforts to deliver services in the traditional manner by BCSCC.

Cost Analysis of the System as a Whole

The cost analysis will provide a detailed examination of the costs of setting up and operating an NCC system and an extrapolation of these costs for an expanded system. This aspect of the study is designed to provide practical answers about the costs of replicating this system in other cities.

Social and Political Impacts of the System

The interactive NCC system will generate a wide range of social and political effects on senior citizens and public and private organizations in Reading. The impact of the NCC system on the behavior of senior citizens will be examined on three dimensions: (1) the effect of the system on the use of services; (2) the effect of the system on the attitudes and beliefs of the elderly both about themselves and the agencies and organizations with whom they interact; and (3) the effect of the system on the capacity of the elderly to participate in the political and social processes of Reading.

The impact of the NCC system is likely to extend far beyond the public service experimental applications to the overall set of public and private organizations in Reading. In order to distinguish the intended from the unforeseen consequences of the system, a specific portion of the research is also designed to examine the impact of the NCC system on community organizations and on existing communication media in Reading.

The Development and Operation of the System

Research related to the development and operation of the system will serve two purposes: to provide continuous feedback to participants and to provide a comprehensive summary of development and operation. A number of mechanisms have been set up to record and monitor the process of developing the NCC system. These events will be chronicled and related to the evaluation of the selected service-delivery functions.

The principle underlying the action research is that of evolutionary optimization of the system, that is, to enable the system and its users to adapt readily to the knowledge gained as participants become increasingly familiar with the interactive process.

The original implementation design was based on the previous experience of the Alternate Media Center and of other research organizations. It is expected that the development of the NCC system will lead to fundamental changes in several aspects of the initial implementation design, such as the technical configuration of the system, terminal equipment, personnel skills, interactive procedures, programming, and governance of the system.

CONTROL DESIGN AND SAMPLING FRAME

To conduct evaluations of the NCC system and service-delivery functions, a quasi-experimental research design is proposed with before and after measurements on treatment and control groups. In addition, provisions are made to assess the utility of one-way diffusion of the NCC-generated signal to home-TV receivers. Data sources will be composed of interviews with elderly people and various agency staff as well as agency and project records.

The treatment and control groups will be compared for any changes in the dependent variables which are determined by before and after measurement. The impact of the NCC system will be assessed in three different kinds of residential sites: publicly-owned high-rise apartments for the elderly, publicly-owned garden apartments with mixed-age residents, and private residential neighborhoods where the elderly are dispersed among other residents.

DISSEMINATION OF RESEARCH

The output of this study will be disseminated to potential users through a series of papers and reports and through two conferences to be held during the course of the project. The first conference is to be held in January 1977 in Reading, and will provide an opportunity to demonstrate the working of the neighborhood communication center system to public and private officials concerned with the use of interactive cable television. A second conference will be held in New York City in September 1977, just prior to the termination of the project, to present the research findings to the professional and academic community.

Selected programming from the system will be videotaped for evaluation purposes. Many tapes will be recycled as the project develops. However, tapes of particular interest will be available for distribution to cable systems, social service delivery organizations, and senior citizen groups across the nation. These tapes will be temporarily available from the circulating tape library at the Alternate Media Center, pending completion of the new media center at New York University's Elmer Holmes Bobst Library and Study Center, where they will be permanently housed.

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